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IGNACIO JAVIER CARDONE

**A continent for peace and science: Antarctic science and
international politics from the 6th International
Geographical Congress to the Antarctic Treaty (1895-1959)**

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IGNACIO JAVIER CARDONE

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international politics from the 6th International
Geographical Congress to the Antarctic Treaty (1895-1959)**

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Supervisor: Prof. Dr. Rafael Villa (USP)
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Kinsey (KCL)

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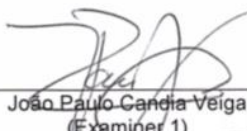
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For all of those who dare to face the unknown in furtherance of science

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ABSTRACT

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In order to understand how and why the white continent ended up being reserved for peaceful use, scientific investigation and international cooperation, this thesis analyses the history of Antarctic international relations between the 6th International Geographical Congress and the signature of the Antarctic Treaty. Following Giddens' Theory of Structuration, Adler & Pouliot's communities of practice perspective and Haas and Adler's epistemic community concept, the following research proposes a multi-level and multi-dimensional framework aimed to overcome the limitations of the usual interpretations of the origins of the Antarctic regime. Making use of archival material from Argentina, Australia, Chile, the United Kingdom and the United States of America, this research emphasizes the role that science played in the international relations related to Antarctica along with political, economic and ideational aspects. Through the following pages I show how the initial impetus for Antarctic exploration originated rather in a sincere scientific desire, than in any geopolitical interest in the Southern regions. The latter would only develop once the economic interest was fostered by the emergence of Antarctic whaling, which would install a logic of territorial competition. Eventually, the instrumentalisation of science by the political interest would both limit the freedom of manoeuvre of scientists and scientific institutions but also allowed them to develop a more intensive Antarctic programme and influence the political decision-making process. It would be eventually the scientific community, through the promotion of international cooperation during the International Geophysical Year, who would enable to search a viable political formula to settle the Antarctic question. However, only when favourable circumstances were combined with the presence of a constituted international epistemic Antarctic community, the structured values attached to the Antarctic activity could be crystallized in principles incorporated in an international agreement for Antarctica. At last, the role of science and the values attached to its practice were recognized in the Antarctic Treaty, while at the same time the exclusivity of the political sphere on Antarctic questions was demanded by the nation-state governments, relegating scientists and scientific institutions to their fields of expertise and guaranteeing the conditions through which their practice could be satisfied. Considering that, the Antarctic regime appears as a crystallization of a complex and extensive sociological process in which science played a key role and, the same time, acknowledged the position of the state as the prominent political actor in Antarctica.

Keywords: Antarctica; Antarctic Treaty; Science Diplomacy; Epistemic Community; International Regimes

RESUMO

CARDONE, I. J. Um continente para a paz e a ciência: ciência antártica e relações internacionais entre o sexto Congresso Geográfico Internacional e o Tratado Antártico (1895-1959). 2019. 332f. Tese (Doutorado em Relações Internacionais com dupla titulação) – Instituto de Relações Internacionais, Universidade de São Paulo, São Paulo e King's College London, London, 2019.

Esta tese procura entender como e por que o continente branco acabou sendo preservado para uso pacífico, investigação científica e cooperação internacional, analisando a história das relações internacionais antárticas entre o 6º Congresso Geográfico Internacional e a assinatura do Tratado Antártico. Seguindo a Teoria da Estruturação de Giddens, a perspectiva das comunidades de práticas de Adler e Pouliot e o conceito de comunidade epistêmica de Haas e Adler, a pesquisa propõe um marco analítico multinível e multidimensional destinado a superar as limitações das interpretações usuais das origens do regime antártico. Fazendo uso de material de arquivo da Argentina, Austrália, Chile, Estados Unidos e Reino Unido, a pesquisa enfatiza o papel que a ciência desempenhou nas relações internacionais referentes à Antártida juntamente com os outros fatores envolvidos, tais como o político, econômico e ideacional. Nas páginas a seguir, analiso como o ímpeto inicial para a exploração antártica originou-se de um desejo científico sincero, mais do que qualquer interesse geopolítico na Antártida. Este último só se desenvolveria uma vez que o interesse econômico fosse estimulado pelo surgimento da indústria baleeira na Antártida, que resultou na instalação de uma lógica de competição territorial. No final, a instrumentalização da ciência pelo interesse político limitou a liberdade de manobra dos cientistas e instituições científicas, mas também permitiu que desenvolvessem um programa antártico mais intensivo e influenciassem o processo de decisão política. A comunidade científica, através da promoção da cooperação internacional do Ano Geofísico Internacional, permitiu a busca de uma fórmula política viável para resolver a questão antártica. Entretanto, somente quando circunstâncias favoráveis foram combinadas com uma comunidade epistêmica internacional antártica constituída, os valores estruturados ligados à atividade antártica se cristalizaram em princípios incorporados em um acordo internacional para a Antártida. O Tratado da Antártida reconheceu eficientemente o papel da ciência e os valores ligados à sua prática, ao mesmo tempo em que reivindicou a exclusividade da esfera política na questão antártica para os governos dos Estados nacionais, relegando cientistas e instituições científicas a seus campos de atuação especializados e garantindo as condições através das quais a sua prática poderia ser alcançada. A partir dessa perspectiva, o regime antártico aparece como a solidificação de um processo sociológico complexo e extenso no qual a ciência desempenhou um papel fundamental - mesmo quando não foi exclusivo - e, ao mesmo tempo, aceitou a posição do Estado como ator político proeminente na Antártica.

Palavras-chave: Antártica; Tratado Antártico; Diplomacia Científica; Comunidade Epistêmica; Regimes Internacionais

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ACRONYMS

ANRC	Australia National Research Council
BANZARE	British Australian New Zealand Antarctic Research Expeditions
CSAGI	Special Committee for the International Geophysical Year (<i>Comité Spécial de l'Année Géophysique Internationale</i>)
FID	Falkland Islands Dependencies
FIDS	Falkland Islands Dependencies Survey
IAA	Argentine Antarctic Institute (<i>Instituto Antártico Argentino</i>)
IAG	International Association of Geodesy
ICJ	International Court of Justice
ICSU	International Council of Scientific Unions
IGA	Argentine Geographic Institute (<i>Instituto Geográfico Argentino</i>)
IGC	International Geographical Congress
IGY	International Geophysical Year
IMO	International Meteorological Organization
IPY	International Polar Year
IRC	International Research Council
IAU	International Astronomical Union
IUGG	International Union of Geodesy and Geophysics
NAE	National Antarctic Expedition (UK, Royal Society and Royal Geographical Society 1901-1903)
RGS	Royal Geographical Society (London, United Kingdom)
PRC	People's Republic of China
RS	Royal Society (London, United Kingdom)
SCAR	Special Committee for Antarctic Research Scientific Committee for Antarctic Research
SPRI	Scott Polar Research Institute (Cambridge, United Kingdom)
URSI	International Union for Scientific Radio (<i>Union Radio-Scientifique Internationale</i>)
WMO	World Meteorological Organization

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INTRODUCTION

Today Antarctica is regarded as a continent reserved for peace, science and natural and environmental conservation. However, that is not the history of Antarctica during the first half of the 20th Century when several nations competed to gain basis for their territorial, economic and strategic ambitions in those southern latitudes. If that competition led to an era of international cooperation in promotion of Antarctic science, it was due to the establishment of the Antarctic regime, born in 1959 with the signature of the Antarctic Treaty and the principles crystallized on it. *To understand how and why the white continent ended up being reserved for peaceful use, scientific investigation and international cooperation, is the objective of the pages that follow.*

Even though there is an extensive literature that deals with the Antarctic Treaty regime, most of it centres its attention on the evolution of the regime itself, and when it is devoted to the analysis of the previous period, it usually limits the scope to specific events. The origins of the Antarctic Treaty regime have been usually explained through realist analysis that highlighted the role of the US and the Soviet Union in fostering the agreement; but neglected other important actors and variables. The involvement of the scientific community on the Antarctic Treaty's design has been accounted for mainly through the influence of the 1957-1958 International Geophysical Year (IGY); not recognizing a broader and lengthier process of scientific involvement in Antarctic issues that could be traced back to the turn of the 20th Century, and that seemed to have left important marks on the Treaty itself. Other important factors, such as the influence of imperialism and nationalism, have been analysed through prominent historical writings. Nonetheless, a more encompassing and comprehensive approach is needed to understand how it was possible to come to terms with—or at least suspend—the territorial conflicts; reserving the whole continent for peaceful use and scientific research; a compromise that has successfully lasted for almost 60 years.

Consistent with the pluralistic call that has aroused prominent sectors of current International Relations academics, we maintain that the history of Antarctic

affairs cannot be understood from a single relevant factor perspective. Thus, the international relations related to Antarctica must be addressed, taking into consideration multiple levels and dimensions of analysis, conforming a multi-causal explanation. We will maintain that, *despite other factors—such as the distribution of power and economic interests—being relevant and determinant; the final design that the Antarctic regime adopted, reserving the continent for peaceful purposes and scientific investigation, cannot be understood without taking into consideration the role that science has played during the process of shaping the Antarctic affairs.*

In order to assess such influence, I will analyse the history of scientific involvement in Antarctica since the 6th International Geographical Congress in London, 1895, up to the signature of the Antarctic Treaty in 1959. The 6th International Geographical Congress was convened due to the call that a prominent sector of the scientific community made to West European governments, in order to explore what was considered at that time to be ‘...the greatest piece of geographical exploration still to be undertaken.’ Even when some calls for international cooperation were made before that event, the reach of the call for exploring the white continent in 1895 seems to have had more profound repercussions and resulted in an effective outcome. The decision for the signature of the Antarctic Treaty followed the consideration that it signalled the end of an era and the beginning of a new institutionalized framework. Even when that delimitation is merely analytical, it is undeniable that the signature of the Treaty constitutes a milestone in the institutionalization of the international regime for Antarctica.

Such study is designed to complement the increasing number of works that address different aspects or episodes of Antarctic international relations of that period. Despite the fact that Antarctica has not been one of the most popular topics in International Relations analyses, the growing number of academics dedicated to the study of its history and sociological aspects had been favoured by the institutionalization of several academic events and associations that operated as an

agglutinating factor.¹ The study of Antarctic politics by International Relations academics has been very limited. In some countries, the academic literature on the issue is combined with political positions, making it hard to distinguish between academic analysis and political works. Nonetheless, other disciplines have filled that gap with analysis that has grown in quantity, quality and scope.

Most of the analysis about Antarctic politics has been focused on the Antarctic regime and its evolution,² particularly on the challenges and changes that the regime has experienced during its rule of the white continent. The period prior to the Antarctic Treaty has been addressed through the analysis of specific events or dimensions. Some Historians, such as Peter Beck (1986; Beck 1987; Beck 1983), have directed their analysis to emphasize the role of the two superpowers on fostering the international agreement. David Day (2013) developed a referential piece of work covering a huge span of time and based his analysis on an impressive amount of archival material. Adrian Howkins (2006; 2008a; 2008b; 2008c) studied the different aspects of the history of the conflicts between Argentina, Chile and Britain, and some other collateral events. Irina Gan (2009a; 2011; Gan 2009b; Gan 2010a; Gan 2010b) developed important work on the Soviet involvement in Antarctica, while Jason Moore has done something similar related to US Antarctic policy (2001a; Moore 2006; Moore 2008; Moore 2004; Moore 2001b; Moore 1999). John Dudeney and David Walton (2012) elaborated on the British policy behind Operation Tabarin. Dian Olson Belanger (2006) has done something similar with the US operation Deepfreeze during the International Geophysical Year. Pablo Fontana (2014) reflected the Argentine perspective of the conflict in the Antarctic Peninsula, continuing the work of other Argentine Antarctic historians such as Capdevilla and Comerci (Capdevilla and Comerci 1986; Capdevilla 2011). Bugueño and Mancilla (2005) also addressed the crisis between the three countries from a diplomatic perspective, while Quiroz (2010; Quiroz 2011) reconstructed the history of the Chilean whaling tradition. Chris Turney

¹ One of the most relevant and international in character is the Standing Committee in Humanities and Social Sciences (SC-HASS) of the Scientific Committee for Antarctic Research (SCAR).

² See for example: (Colacrai 1997; Colacrai 1998; Colacrai 1981; Colacrai 1980; Dodds 1997; Dodds and Hemmings 2013; Dodds 2010; Hemmings 2010; Joyner 1998; Herr 1996; Haward, Jabour, and Press 2012; Villa 2004; Ferreira 2009)

(2012) wrote about the history of the competition to reach the south pole in the first and second decades of the 20th Century, a topic also addressed by Huntford (2010; Huntford 2012). Historians of science have developed important and well-founded studies on the international cooperation on polar research and the international efforts behind the International Polar Years and the International Geophysical Year, such as the works of Rip Bulkeley (2011; Bulkeley 2008; Bulkeley 2010), Fae Korsmo (2007a; Korsmo 2007b), Cornelia Lüdecke (2010; 2004; Lüdecke 2003), Brandon Luedtke (2011) and Colin Summerhayes (2008).

Geography related scholars, such as Klaus Dodds (2010; 2005; 2008; Collis and Dodds 2008; 1997), Christy Collis, Simon Naylor, Martin Siegert, Katrina Dean and Simone Turchetti (Naylor et al. 2008; Turchetti et al. 1983; Naylor 2010; Dean et al. 2014; Turchetti et al. 2008; Naylor, Dean, and Siegert 2008), have devoted their analysis to the geopolitical dimension of the Antarctic problematique and, particularly, to a geopolitical analysis of the influence of the International Geophysical Year.

In the International Relations realm, the most systematic analysis of the period is included in *Managing the Frozen South*, by M. J. Peterson (1988). Even though Peterson's book is mainly aimed at describing the changes in the Antarctic regime, the book devotes three chapters (2, 3 and 4) to the process of regime creation, developing a theoretically and empirically grounded analysis. However, the way in which the author made use of different theories of International Relations—using the historical case as a prove/disprove source—prevented him from a more complex and comprehensive analysis, which could have combined different kind of explanations altogether.

Due to the lack of works that explain the sociological and political determinants of the particular outcome of the Antarctic Treaty, but building on the knowledge already developed in the area, the work presented here offers a new insight to the process of structuration of Antarctic international relations through the particular role of science. Thus, through the following pages, I will analyse the way in which Antarctica constituted itself as a geographical space; the ideas that were attached to the polar regions; the role that scientists and scientific knowledge played in informing Antarctic politics; the role played by scientists and scientific institutions

in promoting international Antarctic cooperation; and the way in which scientific interest, logics and ideas were intertwined with other kinds of considerations.

In order to accomplish this, I have combined an extensive review of the relevant literature with the analysis of primary sources composed by archival material. While the literature provided the general setting and framing of the research, the archival material constituted the basis on which I constructed the accounts of events. In reference to the archival material, I've mainly drawn upon governmental archives repositories, with occasional resource to alternative sources, such as those belonging to scientific institutions that played a relevant role in Antarctic history.

Among the sources consulted are: the *Archivo General Histórico del Ministerio de Relaciones Exteriores de Chile* (Santiago de Chile, Chile); the *Archivo Histórico de la Cancillería* (Buenos Aires, Argentina); the Archives of the British Antarctic Survey (Cambridge, UK); the National Archives of Australia (Canberra, Australia); the Archives of the Royal Geographical Society (London, UK); the Archives of the Royal Society (London, UK); the Archives of the Scott Polar Research Institute (Cambridge, UK); the National Archives of the United Kingdom (London, UK) and the United States National Archives and Records Administration (Washington D.C. & Maryland, MD, USA). The fieldwork conducted on the archives followed an exploratory fashion, using the catalogues and search engines available. Additionally, commonly used references with specific relevance to the research extracted from the literature were listed and reviewed. The documentation thus extracted was analysed and classified, building several databases that facilitate further analysis and process tracing. The information extracted from the archives included: individual and institutional correspondence; institutional plans; instructions; reports and newspaper clippings. Through those primary sources, we were able to draw upon how individuals and institutions defined their views, aims, objectives and programmes; as well as the public and classified discourse about the southern latitudes. Those documents were reviewed following a matrix of analysis that guided our study in identifying the multiple levels and dimensions.

The results of the research are presented here structured in six chapters. Chapter 1 introduces the theoretical approach, including the concepts extracted from

Giddens' theory of structuration, the description of the levels and dimensions of analysis, and the conceptual definition of communities of practice and epistemic communities. Chapter 2 describes the initial process through which scientists and their institutions managed to impose their Antarctic exploration agendas and the political impacts that their actions had, including the resulting development of whaling. Chapter 3 presents the British intent to establish an Antarctic hegemonic order incorporating the whole continent within the Empire, the intent to establish a rational regulation of whaling through the development of a scientific programme, and the challenges that eventually arose. Chapter 4 introduces the process of escalation and power competition that was installed in Antarctica since the beginning of the Second World War and that extended until the International Geophysical Year. Chapter 5 describes the origins of the International Geophysical Year and the final constitution of an Antarctic Epistemic Community, and the process of political negotiation that ended with the signature of the Antarctic Treaty. Chapter 6 presents the analysis and conclusions divided by dimensions and the particular considerations regarding the epistemic communities, with some final remarks.

Chapter One: A Theoretical Approach to the Role of Science in the International Politics of Antarctica

The assumption that science could have any role in shaping international relations implies that we need to overcome the state-centred, balance-of-power analysis praised by realism and understand the relations between nations as involving a diverse number of actors. That approach indicates the need to adopt a multi-level and multi-dimensional research. That is not to deny the important function that the state and the geopolitical level plays on the international realm, but to understand its role as not the only relevant nor determinant factor. I assume that, as any other social reality, international politics are determined by intricate sociological mechanisms that involve a myriad of elements, principles and rationalities; and that the task of understanding that reality involves an extremely complex analytical and theoretical effort.

As previously stated, we need to adopt a perspective based on an interpretivist view of the international field, paying attention not only to the material determinants, but also to ideas, perceptions and representations of the actors involved. That requires an eclectic theoretical approach³ that can combine different kind of explanations in order to give an adequate account of the complex of social mechanisms involved in shaping Antarctic relations.

On the following, I provide an analytical framework drawn mainly from Giddens' theory of structuration, Adler and Pouliot's communities of practice perspective, and Hass and Adler's epistemic community concept, offering the conceptual definitions used during the analysis. First, I present my elaborations on the need for a multi-level analysis, with a definition of such levels and the actors related to them; the concept of system and its possibilities for my study; and the centrality of the concept of practice in the communitarian level. Subsequently, I develop the multiple aspects incorporated in the research, including the political,

³ About the debate regarding the use of a theoretical eclecticism in the International Relations field see the special issue of the *European Journal of International Relations* (19 (3), 2013), in particular: Dunne, Hansen, and Wight 2013; Lake 2013; Bennett 2013; Brown 2013; Sylvester 2013; Guzzini 2013; Williams 2013; Jackson and Nexon 2013; Reus-Smit 2013.

economic, ideational and scientific. Lastly, I present a definition of science in its multiple meanings as an actor, and the concept of epistemic communities, including the particularities introduced for its use in the Antarctic case.

1.1 The Multiple Levels Involved in Antarctic Politics

For science to have a role in Antarctic politics it is necessary that other actors apart from the State could be relevant in shaping those politics. That means abandoning typical state-centric neo-realist approaches⁴ and understanding the international relations as a complex social reality where different types of actors are subject to different rationalities, interests and representations; act purposively and produce, through their actions, practical effects on the international reality. That justifies the adoption of a multi-level analysis that can enable transit between different levels of aggregation. Therefore, instead of the typical state-centred differentiation between subnational, national, international and transnational levels, I will follow a distinction that considers the way in which agency is constituted, including the individual, communitarian, organizational and systemic levels (see *Figure 1*).⁵

Following Giddens, agency is the possibility to ‘act’ in the sense of making a difference in the world (Giddens 1984, 14). While those possibilities are established by structural properties⁶ that determine the availability of resources and the perceptions related to it, at the same time is through those actions that social structures are reproduced and instantiated, defining the duality of the relation between

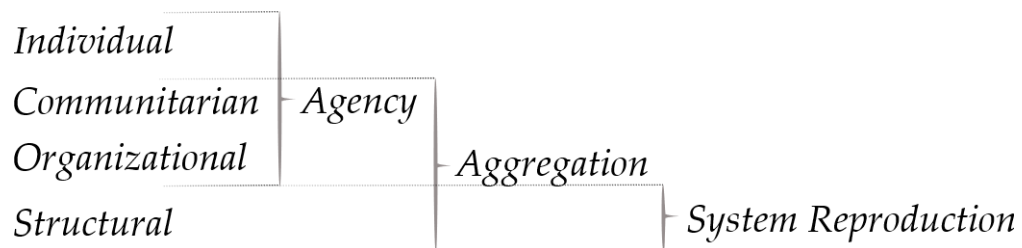
⁴ In ‘The Nation-State and Violence’ (1989) Giddens condemns the vision of International Relations as a field with no ties with social theory. In particular: ‘the very notion of a distinctive field of international relations, separated somehow from what goes on inside nations or “societies”, is in some part symptomatic of the limitations in social thought...’ (Giddens 1989, 30), that follows the same direction as my position defending the need for a multi-level analysis.

⁵ I follow here some of the ideas developed by Giddens on his distinction between association, organization and social movements (Giddens 1984, 199–206), but the way in which I apply it here is rather distinctive.

⁶ It is important to highlight that in establishing the possibilities, social structures are at the same time both enabling and constraining (Giddens 1984, 169).

agent and structures or, in other words, its mutually constitutive character⁷ (Giddens 1984, 25–28). To be limited by structural properties does not mean that there is a structural determinism—at least in the sense elaborated by the different structuralisms—but that such possibilities are defined by social conditions. On the other hand, to state that action is purposive, does not imply that the consequences of the action are those intended by the agent, but merely that his action follows some reasoning, in the sense of being oriented from some consideration of the available alternatives,⁸ including the non-existence of such.

Figure 2: Different Levels of Analysis



Source: Elaborated by the author.

In terms of the material execution of an action, that is its physical performance, only the individuals act. But in acting an individual could be incarnating different social roles and, thus, different collective actors. So, a single act could include multiple agencies⁹ in the sense of purposive action,¹⁰ and my analysis will tend to transit

⁷ I use Giddens' theory of structuration instead of Alexander Wendt's interpretation not only because I consider it more useful to refer to the original source, but also because I consider that Wendt's interpretation does not reflect Giddens' elaboration adequately. In particular, I disagree with Wendt in ascribing a 'scientific realist' ontology to the structurationist perspective. Wendt himself recognized that his identification with "scientific realism" did not come from Giddens' ideas but from the work of Roy Bhaskar (Wendt 1987, 336, 357) and I consider there is nothing in Giddens' structurationist theory that suggest that a scientific realist ontology must be adopted.

⁸ This consideration need not to be correct, as Giddens remarks.

⁹ In 'The Constitution of Society' (1984), Giddens denies the possibility that agency be attributed to collective actors (p.220-221) but in 'The Nation-State and Violence' (1989) seems to open that possibility (p.7). I will consider collective actors as having agency at least on a practical sense: that the individuals that operate as representing them take that agency in consideration for their decisions. That does not mean attributing an ontological dimension to that agency, as I understand it as being socially constructed; but at the same time, I consider it not reducible to the individual.

¹⁰ For example, an individual signing a treaty is himself an individual performing the physical action of signing. In terms of its social individual significance, the act has a particular significance that is linked with the individual life-trajectory and context. As a diplomat, the act has a significance located in the meanings attributed by the diplomatic community to the act of reaching agreements. As a

between levels, depending on the relative importance of each of them. *Individual* agency will have relevance particularly when, due to individual characteristics—such as personality, life-experience, social position, knowledge, etc.—an event could be said to have been determined by that individual. That is the case particularly with some prominent figures in history which, without denying the fact that they are a product of historically determined conditions, have been protagonists of key events and without whom the course of history would be expected to differ. In the present case, some political leaders, but also explorers and scientists present such characteristics and will be highlighted in the analysis.

In a first aggregated level that I call ‘*communitarian*,’ agency responds to a shared identity formed by a common background knowledge—a common culture—in which the aggregated action is not directed to control the conditions of social reproduction.¹¹ The idea is that, in such level, actors act as a collective in the sense that there is some kind of *esprit de corps* which responds to shared structures of meaning; but that action—what Giddens calls reflexive monitoring—is not organized in the sense of explicitly establishing some rationality that could channel the course of events. Collectives without an institutionalized direction—in other words, an explicitly established decision-making process—fall into this category. Examples of such can be found in the scientific community,¹² the community of explorers, the military¹³ and other social groups. It is important to note that the communitarian level could include subnational, but also international and transnational collectives.

governmental official, the act has the significance of pursuing some particular national interest, and so on. Whatever is the level of analysis in which the single act will be analysed will depend on the analytical interest and focus (as well, of course, on the information available).

¹¹ Giddens use the term ‘association’ to designate such a level. I opted for the term community because it describes better the ideas taken from Adler, Haas and Pouliot. Regarding Giddens’ distinction between association, organization and social movement, see: Giddens 1984, 199–206.

¹² I refer here to the ‘scientific community’ in general. I acknowledge that there are scientific organizations, but I am not referring here to them—as we will do on the following category—but to the group of scientists sharing a common scientific culture. I also acknowledge that, in this sense, several different scientific communities could be identified.

¹³ In this case also, I acknowledge that it is hard to view the military as non-organized community, particularly because, in that group, hierarchy usually also permeates private life. However, once more, I am referring here to the community as the mere group of individuals, which will act as a collective due to a shared culture and not because of institutionalized organization and direction.

On the following level, we find the collectives that I call ‘*organizations*,’ characterized by an agency in which the purposive action is guided by the attempt to control or alter the circumstances of system reproduction (Giddens 1989, 12; Giddens 1984, 200). In contrast to the previous level, in this case, we can account for an institutionalized form of direction in which information and decision is controlled, and roles and norms specifically sanctioned. Building on some form of community which furnishes the social basis for its constitution,¹⁴ what we usually recognize as institutions fall into this category—including the nation-state as a political organization. This level has also the particularity of being internally multi-layered, as organizations can be formed by sub-units—such as departments—in which an internal structure can be distinguished. Additionally, as in the previous category, organizations can be subnational, national, international and supranational. In this level, apart from the nation-state—or more specifically their governments—I will be also analysing other organizations, such as scientific institutions, private enterprises and international organizations.

Last but not least, the ‘*systemic*’ level is where reproduction of the structural properties is operated (Giddens 1984, 162–168). The systemic level does not present any kind of agency, in the sense that there is no purposive action, but merely a dynamic of reproduction that establishes relatively stable structural properties.¹⁵ In contrast to individual and collective actors, the system does not perform any action nor have any intent. What defines the systemic level is the connection it establishes across time and space through what Giddens calls the ‘*recursive nature*’ of social life, that is, the continuous recreation of the structural properties out of the same resources that constituted them. That reproduction is not equivalent with stasis, as

¹⁴ In some cases, the community precludes the organization, but in others it is the opposite. Examples of the first kind could be organizations based on some identity or interest, such as professional organizations. In the second case, a typical example would be a private enterprise. Furthermore, in some cases such as the latter, the organization does not crystalize in some form of community in the sociological sense, as its character as a collective is limited to the role as part of the organization.

¹⁵ This does not imply any kind of determinism. Social systems are a result of the aggregated action of agents, but not merely as the sum of their individual intentions. Whatever outcome that the action of social agents has is determined by historical conditions as well as intended and unintended consequences of their actions. Nevertheless, there is nothing ‘inevitable’ in that outcome, in the sense that agents could always have done differently with different results.

continuous changes are introduced through that process. However, there is a continuity in the sense that even change needs to be operated over the previously structured conditions. In the case of the present analysis, the systemic level includes social systems, the transnational capitalist economic system and the international political system. On all those systemic levels, interlinked systems of different scope can coexist, in the sense that a relatively autonomous dynamic of reproduction of its structural relations can be found. Particularly I will be interested in determining to what extent an Antarctic system can be identified, providing a dynamic of reproduction that can be considered as inherently Antarctic.¹⁶

1.1.1 The Concept of Practice and Its Importance to the Present Analytical Scheme

Even though in his theory of structuration Giddens continuously refers to social practices, the author does not give relevance to the concept. However, it is essential to understanding the relation between agents and structures, especially as a mechanism through which structures are instantiated and extended over time. Filling that gap, and following the basis of the theory of structuration, Adler & Pouliot centred their *International Practices* (2011a; 2011b) approach on the concept of practice, considered essential to understanding the international reality. Defined as ‘competent performances,’ or more precisely: ‘socially meaningful patterns of action which, in being performed more or less competently, simultaneously embody, act out, and possibly reify background knowledge and discourse in and on the material world.’ (Adler and Pouliot 2011a, 4) the concept of practice has the advantage of denoting the dynamic of social action and reproduction.

Conceptually distinguished from behaviour—the material dimension of doing—and action—the subjective and intersubjective significance of the act— and given its patterned nature, the concept of practice endows the character of a general

¹⁶ That is not to say that it needs to be isolated from a global system, but that it has a dynamic that mainly respond to internal conditions and relations.

class of action with socially attributed meaning (Adler and Pouliot 2011a, 5). Socially speaking, it involves learning and training from the performer, and acceptance from the community. That is what typifies some collectives as *communities of practice*, characterized by a shared background knowledge through which the content of the social practices is socialized.

In terms of the latter, not only the content of the practice needs to be accepted and considered as ‘legitimate’ but also the performer needs to be considered as a valid agent,¹⁷ that is, to be perceived as part of that community. This aspect of social practices is of particular importance here because it is through it that many debates and struggles take form, not only regarding what is a valid practice, but also who are competent agents.¹⁸ In other words, who are the valid Antarctic actors and what practices and in which conditions they are considered as legitimate in Antarctica is of great relevance for the analysis.

1.1.2 The Relevance of the Space and Time Dimension in Antarctica

In Giddens’ theory of structuration, space and time are of most importance (Giddens 1984, xxi, 3), as it is the extension over those dimensions that gives the structures relevance. A structure only could be such due to its recurrent nature, that is, its characteristic of being auto-referencing.¹⁹ The way in which structures are extended over time and space are determined by the dynamic of the social systems that reproduce them through the practices in which they engage. That importance of the time and space dimension determines the historicity of social structures—that is, its

¹⁷ Adler & Pouliot seem not to have pay attention to this aspect. However, I consider it central in terms of the sociological analysis, including international relations. Who are seen as ‘valid’ actors precludes any kind of consideration of the effective practices.

¹⁸ Just to advance some examples, what constitutes a ‘discovery’ could be subject to debates, either respecting what conditions must be satisfied (seeing an unknown feature, registering the event, measuring it, etc.) or who could be the agent of the discovery.

¹⁹ It is necessary to insist once more that this does not deny the possibility of change. The character of being auto-referencing includes the possibility that the reference could be done in a mode of contestation.

contingent nature—avoiding the determinism usually reflexed on the analysis of structuralism.²⁰

In the case of Antarctic, as we will see from this work, this importance of the space-time dimension acquires a particular significance, as a consequence of the relative remoteness of the region. The spatial dimension, in its geographic technical sense but also in its more political connotation, is fundamental in the way in which different actors engaged with the continent.²¹ Being interpreted as a polar region, as a region of its own, or as an extension of the national territory, has very different political, economic, and social effects. For its part, the time dimension also holds a special character in Antarctica, as what is seen as temporal presence is expressed on differential terms in the case of the white continent. What is considered to be a tradition of continuous occupation—something relatively undisputed elsewhere—would be usually the object of contention in those latitudes. In conclusion, the way in which already established practices, or differential ones proposed instead, are considered as extendable to the Antarctic, would depend to a great extent on the dimensions of time and space and how they are perceived by different actors.

1.2 The Multiple Dimensions of Antarctic International Relations

As already stated at the start of this chapter, understanding the role of science on Antarctic international relations implies going beyond the balance-of-power analysis.²² That means assuming that international relations are conditioned by more than geopolitical considerations and that other factors are relevant in providing explanations about that reality. Being so, my analytical scheme combines different aspects or dimensions of analysis, which I consider essential to my explanation of

²⁰ What I am highlighting here is that in structurationist theory—in contrast with structuralism—there are no ‘natural’ or fixed structures, only socially constructed and historically conditioned ones.

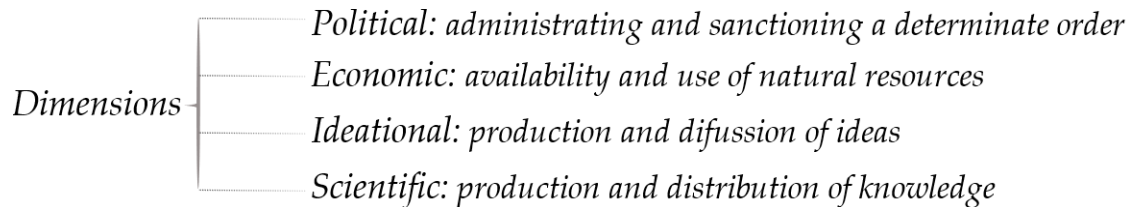
²¹ In this regard, see for example the excellent work of Klaus Dodds (2000).

²² Giddens, for instance, considers the balance-of-power as a doctrine which was the origin, but also consequence, of the political practice it helped to establish, ‘better understood less as an actual equilibrium of strength than a shared policy adopted by states that only conditionally recognized each other’s sovereignty.’ (Giddens 1989, 257). That means that the balance-of-power, as any other social practice, constitute a historical construct and not a ‘natural’ logic.

Antarctic events. By doing so, I do not intend to assert that those aspects constitute perfectly separated spheres of reality, but merely to provide a methodological distinction with heuristic utility for the present study. Furthermore, as indicated by Giddens' theory of structuration, structural properties are composed not only by the distribution of material capabilities (what he calls allocative structural properties), but also by authoritative resources (Giddens 1984, xxxi, 256–262), both being components of his concept of power.

In the following, I will differentiate between the political, economic, ideational and scientific dimensions (See *Figure 2*). The political dimension refers to the capacity of establishing a determinate order. The economic dimension pays attention to the conditions of availability and use of natural resources, including their material and organizational conditions. The ideational dimension highlights the aspects related to identity, imaginaries and ideologies. Finally, the scientific dimension refers to the conditions of production and distribution of knowledge.

Figure 3: Different Dimensions of Analysis



Source: Elaborated by the author.

1.2.1 The Political Dimension

The political dimension of study is related to the distribution of material and authoritative resources in what concerns the establishment of some form of political control over the territory of Antarctica. That is the effective and intended capability of administrating and sanctioning a determined order in the southern regions. Such capabilities comprise, not only the distribution of military and administrative resources on the frozen continent, but also the availability of institutional and normative competency.

In this respect, the practice of balance-of-power explains some international actions that take reference from the relative distribution of military and administrative resources. The systemic characteristic of balancing actions is given by its auto referral nature and its potential for system reproduction. In this sense, what is important is what frame of reference is adopted by the agent in defining what is conceived as a system's 'balance'. If the action is taken in consideration of what is perceived as a global balance-of-power is different from when the act is responding to some regional equilibrium—for example some Antarctic balance.

On the other hand, the availability of authoritative resources, that is the capability of imposing a particular order, is strongly associated with the acceptance and legitimation of a particular role within the international community. The idea of sovereignty, defined as effective control over the territory, not only depends on the definition of the area of domain by the 'sovereign', but also requires the recognition of others—his fellow sovereigns—in the international arena. In Antarctica, this struggle for recognition of an authoritative role and the conflictive claims of sovereignty that derived from it, were essential to the political dynamics and defined much of the negotiations that took place before a solution was reached.

The institutional aspects of the political dimension refer both to the practice of international diplomacy and to the existence of international organizations which could have a say on issues related to Antarctica. The exclusion of Antarctica from the institutional scope of international organizations such as the League of Nations or the United Nations is as relevant as its inclusion would be. In terms of the institutional capabilities, the availability of a competent diplomatic body, the distribution of institutional infrastructure—such as embassies, consulates and missions—and the existence of an instituted identity and shared values are key components of an effective diplomatic action. Also, the existence and scope of international organizations and the insertion of competent diplomatic bodies within those organizations reflects the country's capacity for political action.

Lastly, the normative political aspect connects the previous two in making explicit an institutionalized set of norms and the availability of resources to enforce its sanction. The national or international nature of the norms mobilized determine

in great measure the degree of legitimacy of the imposed order and the needs of material capabilities for its enforcement.

1.2.2 The Economic Dimension

The economic dimension includes aspects connected with the availability and use of natural resources in its material and organizational aspects. The connection between natural resource and its economic use depends on the social relations of production; the conditions of accumulation of capital; the requirements of capital of different economic activities; the characteristics of the different markets; the potential of political authority for economic regulation, extraction and concentration; and the technological level of development.

The social relations of production define the potential for different forms of generating surplus, having a direct impact on the conditions for capital accumulation. As such it depends not only on the nature of the economic activity, but also on the social order in which such activity takes place. The existence of a politically sanctioned normative order is essential for sustaining the social relations of production and its reproduction that linked it to the political authoritative dimension.

Natural cycles also have important effects on economic activities, such as seasonality and crossed influence effects. The seasonality of some extractive activities imposes an exogenous rhythm to the economy. That affects the behaviour of markets, the geographical distribution of nodes of extraction, and the profitability and capital requirements of the activity.

The potential of political authority for economic regulation affects individuals' profitability but also reduce the risks associated with an uncontrolled activity. The existence of frames of reference establish basic rules of conduct that allows a more rational competence and avoid self-destruction. But rational administration depends not only on an effective exercise of regulatory authority, but also on the availability of the necessary information that allows the determination of the level in which the economic activity can maintain the natural balance.

Technological development can increase the efficiency of productive methods, but also can result in the circumvention of legal regulatory frameworks. At the same time, technological development can result in an excessive charge on the natural systems and, combined with a weak regulatory capacity, can lead to the complete depletion of the resource.

1.2.3 The Ideational Dimension

The ideational dimension refers to aspects such as identity, imaginaries, ideologies and all other aspects related to the production and diffusion of ideas. In terms of the identity, the ideational dimension pays attention to how identities are constructed, promoted and confronted with rival identities. The mechanisms through which different roles are legitimized and some identities imposed over others are of crucial importance, as they can shed light on significant aspects of historical events.

The imaginaries refer to the social references that occupy the public imagination. The symbols that are taken as representation, the location in terms of its spatiality, the values attached to some specific features, etc. are all aspects of this vital sociological reference. The importance of it is given by the fact that those imaginaries function as mediations between individuals and their actions and they are commonly mobilized as justification for their choices. Thus, the constitution of such images is crucial to understanding the motives behind some of the purposive acts of the knowledgeable agents.

Additionally, ideologies constitute relatively coherent bodies of ideas, values and norms that condense a shared group understanding about some aspect of life. Based on a shared identity and a common imaginary, the ideology has the particularity of grouping those aspects with some specific perspectives about a broad range of issues, usually defining to a great extent the choices of the individuals that subscribe to it.

1.2.4 The Scientific Dimension

Finally, the scientific dimension looks at issues related to the production and distribution of scientific knowledge. In particular, the dimension refers to the epistemic needs of the different scientific disciplines and its effects over the scientific practice. In this sense, the level of development of scientific knowledge and the possibilities opened by technological advances frequently define a scientific agenda that impacts the way in which scientists and scientific institutions relate with each other.

On the other hand, the distribution of knowledge is connected with sociological processes that have material, historical and ideological determinants. The assumption of a role of scientific authority by individuals, organizations and countries had particular effects on how the scientific debate is structured within and between borders and which agents and scientific products are considered as rightfully scientific. In other words, scientific prestige defines to a great extent who has a voice in the scientific debate.

The national or international character of scientific practice is also a relevant factor in understanding the impacts of science. The nature of some disciplines such as climatology, geomagnetism and oceanography have an important component of global distribution, which means that its understanding and modelling depends on the gathering of information of a global scope, encouraging international cooperation. In contrast, other disciplines directed to the study of specific environments do not pose such need and are usually identified by the environment to which they direct their attention. However, whatever the global or local character of the different disciplines, there are other exogenous factors that explain and influence the national or international character that scientific practice and institutionalization acquire.

One such factor is the social function assigned to scientific practice in general and specific knowledge in particular. When considered in the light of cosmopolitan values and as a means to attaining international prestige, the scientific practice can enjoy a great freedom of manoeuvre in establishing international contacts. But when the specific knowledge is considered as holding strategic importance for the national

interest, that freedom can be greatly restricted. This consideration is not emergent from the scientific practice itself and depends on historical conditions. The World Wars are examples of historical moments where international scientific interchange was greatly restricted and that favoured the organization of more centralized scientific national systems.

The movements through nationalization and internationalization of science are important forces both in the intertwinement of science with politics and in the construction of different scientific identities. The creation of national scientific institutions in order to promote and administrate scientific activities are symptomatic of the importance that scientific and technological advance acquired strategically, as well as the need for a significant volume of resources that contemporary science required. That policy can result in restraints to scientific independence, but at the same time can open the door to an influential political role for science. On the other hand, the internationalization of science facilitated the debate and formation of a scientific consensus and the establishment of strategies which coordinate policies and add impulse to their agendas.

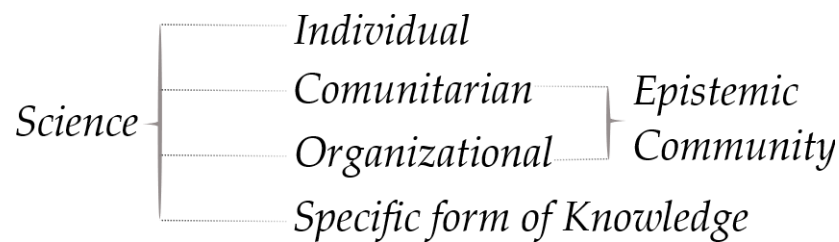
1.3 Antarctic Science and Epistemic Communities

Science is an encompassing concept. When talking about the influence of it, I am referring to multiple levels, such as the individual scientists, the community of scientists and scientific institutions and organizations; not to mention science as a specific form of knowledge (See *Figure 3*). While, as stated in the first section of this chapter, the analysis will pay attention to all of them, the focus will be on the communitarian and organizational aspects of it, mainly to the concept of science as an epistemic community.

Defined by Haas as a ‘network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area’ (Haas 1992, 3), the epistemic community has been usually considered as formed by a relatively limited number of individuals that share a particular view about some issue which has political effects and that

usually reaches some form of influence on political spheres.²³ In Haas's original work, they have been characterized by: i) a shared set of normative and principle beliefs, ii) a shared interpretation of causality that informs their analysis, iii) shared notions of what constitutes valid knowledge and iv) a common political agenda. It is important to emphasize that the concept of epistemic community need not to be limited to a group with scientific expertise, even though it is the way in which the concept has been usually interpreted. What is constitutive of a community as an epistemic one is the shared worldview or *episteme* (Haas 1992, 27) which determines its value-based beliefs and what constitutes a valid knowledge. In this sense, the epistemic community also differs from the collective of scientists in that the former add to the shared causality and validity criteria some form of shared normative commitment (Haas 1992, 19).

Figure 4: Different Levels included on the concept of Science



Source: Elaborated by the author.

Now, my interest in the concept of epistemic communities is due to its heuristic capabilities as an ideal type, that is, its explanatory force describing a sociological process through which a particular group of people with a specific expertise can exert a strong influence in pushing an issue, framing it in the political agenda, defining the terms of the debate and fostering a particular outcome; usually with some form of political coordination or cooperation. In doing so, we need to adapt the concept for the specific case, emphasizing some aspects that are pivotal for the history I will describe.

²³ See for example the excellent analysis of Adler on the idea of nuclear arms control: Adler 1992.

First of all, on the usual uses of the concept, the epistemic communities possess a common expertise and theoretical background, which express a shared understanding about the logic of the political issue at stake. Either in the economic, military, political or any other area, some specific theory is usually shared and socialized, framing the logic of the international subject that is at the centre of the political debate. The prestige of that group of people is usually a product of their specific role as experts on the relevant aspect. However, in the case of Antarctica, the common background that it shares is much more an identity or ‘experience’ than some particular theory. What characterizes the existence of an Antarctic epistemic community is the relevance assigned to Antarctic research and the sense of identification that accrues from their depiction as ‘Antarctic’ scientists. That emphasizes both their identity and commitment with science and their focus on Antarctica as fundamental in pushing scientific knowledge.

Secondly, while the concept of epistemic community should not be confused with scientific organizations, it is important to stress the significance that organizations plays in diffusing and articulating views, interests and strategies, and proportionating a ground in which a preliminary accord can be reached before it is pushed through political channels. The former means that an epistemic community shall have some form of articulation not only internally, but also externally. Internally, the socialization process is essential not only to the diffusion of technical ideas and principles—the theoretical base of its ‘episteme’—but also to the building of sociological links between the individuals that form part of that community. In the case of scientific disciplines, that socializing process takes place through the process of education and scientific debates.²⁴ International interchange, visiting stages, technical cooperation, and participation in scientific institutions and international scientific congresses are some of the typical mechanisms through which sociological

²⁴ This result from the alleged ‘universal’ character of science, in the sense that technical and scientific knowledge is seen as transcending national and ideological barriers, and scientists are compelled to debate and cooperate with other scientists disregarding their nationality or ideological position. I acknowledge that this is an idealization as scientific knowledge is and always has been subject to individual, institutional and national rivalries that have limited that cooperation and universal character; but, generally speaking, modern science has been built through the interchange of knowledge and circulation of information.

contacts are built and maintained (Haas 1992, 17). On the other hand, external articulation can take the form of informal contacts, lobbying and direct participation in the political process.²⁵ Organizations play an important role in both aspects, as ground for ideational and sociological interchange, as well as pressing a particular agenda. Furthermore, the more specific the organizations are regarding the issue in question, the more impact they are expected to have in pushing forward the views of the epistemic community.

Third, at the core of what constitutes an epistemic community is a shared set of values, considered of upmost importance for those involved in it. Those values do not need to be directly related to the specific question that motivates the political engagement of the community but must have some direct effect on the views of the collective regarding that question. In this case, for example, the values behind the Antarctic enterprise might be of a more general nature, but the views resulting from them must suggest some sort of Antarctic involvement from a scientific point of view.

In conclusion, to belong to an epistemic community does not preclude belonging to other communities—epistemic or not, which means that the views, interests and logics of those could intersect, either in coherent or contradictory terms, in the same individuals or organizations. That explains why, even if we are able to identify an Antarctic epistemic community, that identity will overlap others, in particular, nationality. However, if the concept of an Antarctic epistemic community holds a special relevance for us, it is due to the fact that if we are able to identify an Antarctic epistemic community, that would be a strong indication of a mechanism through which scientists and scientific institutions could have significantly influenced Antarctic politics.

²⁵ This is the case described by Adler in the case of some figures of the arms control epistemic community. See: Adler 1992, 46:143.

Chapter Two: The Attraction of the Unknown

Despite the fact that many see Antarctic politics prior to the Antarctic Treaty as dominated by geopolitical concerns, the history of Antarctic endeavour shows that since the last part of the 19th Century Antarctica was the scene of geographical and scientific exploration; and that explorers, scientists²⁶ and scientific institutions have maintained a great degree of initiative in what concerns the white continent. That does not mean that geopolitical and economic considerations didn't played a key role in shaping some countries' Antarctic policies and exerted pressure to support or even promote and organize Antarctic campaigns; but it is indicative of the central role that science has had since the very beginning of Antarctic exploration and helps to explain why, even when internally justified by geopolitical or economic interests, science has always been mobilized as justification for any involvement in Antarctica.

As we will see in this chapter, scientific research in Antarctica has frequently followed economic and geopolitical interests, but it hasn't had a merely instrumental role. In practice, scientific objectives were often in congruence with other interests; and scientific men were also political and economic actors, concerned with promoting their nation's—as well as their personal—prestige and wealth. However, the fact that the main activity was scientific research and most of the actors involved were scientists, has imprinted a particular significance to the white continent and the ideas associated with it.

The main force behind resuming Antarctic exploration was epistemic. The growing positivism in some fields of science, particularly those related with geophysics, brought an emphasis on empirical data gathering and modelling. In order to understand those phenomena, Antarctica was a key piece that called for interrogation. At the same time, the kind of geophysical problems still to be solved

²⁶ There are some questions regarding the distinction between science and exploration (See for example: Heggie 2014). I acknowledge that exploration is a constitutive part of science and that science usually has been a great part of the exploration effort. Nevertheless, I adopt the distinction between these two concepts as it was a distinction used by the actors I am analysing and, thus, it had an effective social impact in their attitudes and actions.

required simultaneous and continuous observations that could reveal the dynamics of complex phenomena, making it impossible for single individuals or institutions to address the challenge. Thus, wide financing and cooperation became a necessary feature of Antarctic endeavour.

As I will argue in the following, it is not the geopolitical interest but the lack of it, that explains the significant role that science has played in international relations in Antarctica. It is the absence of any political importance to the southern regions that illuminates why a community of scientists, fuelled by the interests of revealing some of the most posing scientific questions, assembled and lobbied to obtain wide support for an international programme of Antarctic research. It is also that absence which explains why governments remained mainly outsiders on Antarctic initiatives until the third decade of the 20th Century, limiting their involvement to partial financial support and in-kind and personnel aid; allowing a series of actions that would eventually have important political consequences.

In addition, it was only when some political relevance was attributed to the continent due to the economic prospects of whaling, that Antarctic science started to be thought as a political project, and that scientific initiatives started to be subject to some sort of governmental directive and control. But even then, scientific research and geographical exploration remained as one of the main activities in the continent, sharing its relevance only with whaling. Eventually, scientific research, whaling and politics would coincide in shaping Antarctic politics.

In this chapter, I will analyse the history of Antarctic politics and the role of science from the last part of the 19th Century up to the inclusion of Antarctica into the British map of imperial expansion in the 1920s. In doing so, I will show how an Antarctic epistemic community was formed in Europe at the turn of the century, structuring in significant ways the manner in which human activity would relate with that territory. The lack of official interest and the material necessities of the enterprise led to the promotion of certain values that resulted in the heroic age, a mixture of deeds of exploration and scientific research in pursuit of personal glory, national prestige and scientific development.

When scientific research informed the development of economic activity through whaling, a political hegemonic project arose and, with it, the origin of political disagreement between different parties interested in the southern regions and their alleged rights to it. In that event, science was reinforced as a legitimating factor of authority, particularly in relation with the regulation of the most important Antarctic resource, whales; allegedly following the universal goal of conservation and rational development. Also, while the political objectives linked to economic interests favoured the promotion of scientific projects, science was usually used as a means to avoid political conflict in name of a universal knowledge that would benefit the whole of humanity.

2.1 Preface to the Antarctic Scientific Initiative: Scientific Frontiers and the Call for International Collaboration

By the middle of the 19th Century, Western science started to definitively advance on a path of international collaboration, coordination and standardization as a way to acquire the most complete picture of some unveiled mysteries of nature.²⁷ By that time, knowledge in fields such as meteorology, geomagnetism and atmospheric phenomenon (radio, aurora, etc.) had reached its frontier of development due to the limited information available; and global, synoptic data was wanting.²⁸ The time of great single nation expeditions of discovery was coming to an end, and a coordinated and systematized effort was needed. Consequently, a process of growing institutionalization of collaboration and the creation of international scientific organizations would characterize the whole century and lead to the building of big science on a global scale.

²⁷ Sullivan states that: 'International science can be traced back to the ancients, who exchanged data to construct maps for their mutual benefit; it developed further as man gazed into space and sought to measure celestial distances. Nevertheless, **not until the last [19th] century did coordinated observations by many men at many points come to be general practice.**' (Sullivan 1962, 5 emphasis added)

²⁸ Taylor suggest that this phenomenon responds to a tendency, during the 19th Century, to place emphasis on inductive reasoning, that favoured data collection over the previous mathematical reasoning. See: Taylor 1981.

In geomagnetism, the German scientist von Humboldt proposed, in 1829, to standardize geomagnetic observations with the Russians; an appeal repeated in 1836 to the British. In the meantime, Karl Friedrich Gauss and Wilhelm Weber were creating the *Magnetischer Verein* (Magnetic Union), based in Gottingen (Germany) but which swiftly acquired international reach (Sullivan 1962, 7; Börgen 1893, 2) and produced relevant data for the study of the earth's magnetism.

In navigation, a scheme of international collaboration on sea observations was agreed at the First International Meteorological congress held in Brussels in 1853,²⁹ where representatives of Belgium, Denmark, France, Great Britain, the Netherlands, Norway, Portugal, Russia, Sweden and the United States agreed to gather information in standardized forms to record weather and oceanic phenomena (Sullivan 1962, 6; Daniel 1973, 4). That effort granted that the scope of information available to the analysis reached unknown proportions, and the charts produced as a result saved millions for international commerce by reducing the costs of insurance and sailing times (Graham Burnett 2005; Daniel 1973, 4). The man behind that idea, the US Naval Observatory Superintendent, Commander Matthew Fontaine Maury, also suggested in a letter sent in 1861 to nine diplomatic representations in Washington D.C. that, in view of the opportunities opened by technological development in navigation, it was time that the nations of 'Christendom' face the challenge of exploring the Antarctic regions.³⁰ The invitation—which seems not to have resulted in any answer—highlighted the importance of obtaining data from the southern latitudes as a means to better understand meteorological phenomenon, which eventually would improve navigation, benefitting commerce and the 'civilized' world.

²⁹ International systematic observation could be traced back as far as 1780 with the establishment of the *Societas Meteorologica Palatina* (Meteorological Society of Mannheim) that established a network of 39 weather observation stations with similar and calibrated instruments (Daniel 1973, 2–3).

³⁰ Maury to His Excellency, The Counsellor, Senhor M. M. Lisboa, Envoy Extraordinary & Minister Plenipotentiary of Brazil, Washington 10 of April, 1861. Vol. 18, June 8, 1860 to April 20, 1861, pp.345-363. Letters Sent, July 1842 - November 1862. Records of the United States Naval Observatory: RG 78. NARA/USA, Washington D.C.

The letter was also sent to representatives of Austria, Britain, France, Italy, Portugal, Spain, Russia and the Netherlands.

So, the appeal included a practical as well as a moral component, which was followed suit by many future appeals.

But even with those advancements, most problems of geophysics and meteorology were far from being solved. In 1864, the International Association of Geodesy (IAG), one of the first long-lived international organizations of scientists, was established, aiming to address the problem of the measurement of the earth's shape, which eventually led to the establishment of the International Bureau of Weights and Measures in 1875 (Sullivan 1962, 7). In parallel, efforts to establish an international permanent body to discuss problems of meteorology led, in 1872, to an international meteorological conference in Leipzig. That conference was successful in gathering most of the world's leading meteorologists who were able to reach agreement on many standardized methods of observation and analysis and paved the way for the First International Meteorological Congress in Vienna the next year, where a permanent committee was established (Daniel 1973, 6–8).

In Germany, in 1874, the prominent physicist Georg von Neumayer, who, since 1864 was unsuccessfully promoting an Antarctic expedition to obtain much needed magnetic data (Lüdecke 2003, 35–36), published a paper³¹ proposing simultaneous physical observations at both poles (Börger 1893, 2). Concurrently, the young Austrian naval lieutenant, Carl Weyprecht, commander of the Austro-Hungarian Arctic Expedition of 1872-74,³² returned with the impression that the focus on geographical discovery of polar exploration was impeding the advance of geophysical research and started to work on an international cooperation project to promote polar scientific research (*Annals of the International Geophysical Year - Vol. I* 1959, I:6; Lüdecke 2004, 56–57; Taylor 1981, 371; Börger 1893, 2). First proposed in 1875 at a meeting of the Academy of Sciences in Vienna and later the same year at the German Association of Naturalists and Physicians in Gratz, Weyprecht appealed for abandoning all efforts focused on the naming of geographical discoveries and

³¹ *Die Geographischen Probleme Innerhalb der Polarzonen in Ihrem Inneren Zusammenhang Beleuchtet*. Annalen der Hydrographie, 1874, p.51.

³² I am referring to the Austro-Hungarian North Polar Expedition (1872-74) that discovered Franz Josef Land.

shifting the focus to scientific observations. While Neumayer was not hostile to geographical exploration, Weyprecht considered that ‘no solution can be looked for until the several nations, which claim to participate in the scientific efforts of our age, agree to lay aside their rivalries, and combine for the common good of mankind [*sic*]’ (Weyprecht 1875, 33). Supported by Count Hans Wilczek, Weyprecht elaborated a detailed scientific programme to be submitted to the International Meteorological Congress to be held in Rome, originally scheduled for 1877 but which was postponed until 1879 due to the war in Europe (*Annals of the International Geophysical Year - Vol. I* 1959, I:6). The Rome Congress established the International Meteorological Organization (IMO)³³ and recommended Weyprecht’s programme to their respective governments and established an International Meteorological Commission to summon a special conference. As a result, between 1879 and 1881 three international polar conferences were held (Hamburg, Berne and St. Petersburg) and a definitive programme for the first International Polar Year (IPY) announced.

The first International Polar Year took place between 1882 and 1883 and was what Cornelia Lüdecke called ‘A big science experiment with small science equipment’ (Lüdecke 2004), including 11 nations³⁴ that established 12 stations in the Arctic and two in the southern hemisphere.³⁵ The results were limited, but they ‘provided a valuable data set for half a century until the second International Polar Year took place in 1932-33’ (Lüdecke 2004, 63) and showed the possibilities open to science through international collaboration, constituting ‘the first truly interdisciplinary international scientific programme...’ (Summerhayes 2008, 324). However, that collaboration was limited to establishing national activities under a coordinated international plan with the exception of some bilateral programmes (Summerhayes, *op cit*). Another limitation was that activities were based mainly in the Arctic region, the one that held more importance due to its centrality to North

³³ The IMO ceased its existence in 1951, replaced by the creation of the World Meteorological Organization (WMO), a specialized agency of the United Nations.

³⁴ Austria, Denmark, Finland, France, Germany, Great Britain, Norway, Russia, Sweden, the Netherlands, the United States of America.

³⁵ For a complete list of stations and programmes see: *Annals of the International Geophysical Year - Vol. I* 1959, vol. I, pt. I.

Atlantic weather and, therefore, the more relevant in terms of international commerce.

It would still be a few decades until the Antarctic region became the centre of attention of an important part of the international scientific community, but the experience demonstrated the possibilities open to science through extended systematic and synoptic observations, and international collaboration. Additionally, the event seems to have unveiled to the scientists the possibilities that a coordinated agenda had to influence national politics and favour international cooperation.

2.2 The Greatest Piece of Geographical Exploration Still to be Undertaken: the origins of the Antarctic Epistemic Community

By the end of the 19th Century, Antarctica, a key piece in understanding the physics of the earth, remained mostly unknown. Many efforts made in different places for Antarctic scientific expeditions did not eventuate, being incapable of gathering enough supporters and the necessary funds. The commercial interests that moved the exploration efforts of the early 19th Century, ceased in the second half once the sealing population was almost decimated and the market conditions changed. Advances in whaling technologies enabled the hunting of whales in the southern oceans since the 1860s,³⁶ but the whales were still abundant in the North Atlantic and North Pacific (Day 2013, 87; 92–93).

Governments failed to see any military or commercial advantage to the effort for exploration in such latitudes, as the lands sighted proved to be of no economic value and most risky for navigation. Science on its own seemed not to justify the risks and costs involved. The only great endeavour enacted in the South Hemisphere was the British Royal Society and Royal Navy jointly organized oceanographic expedition of the *Challenger* (1872-76) which inaugurated the era of oceanographic research and

³⁶ The most important of all being the creation, by the Norwegian Sven Foyn, of the grenade-tipped harpoon gun and the compression system to maintain the whales afloat. That invention allowed the whalers to pursue Rorquals and Humpback whales, which before that they were not able to catch. See: Day 2013, 92; Savours 2013, 201.

investigated the nature of the sea floor in the sub-Antarctic region (Day 2013, 89). Simultaneously, a small German expedition, commissioned by the German Polar Navigation Society and led by Eduard Dallman, departed to the Antarctic Peninsula region in search of whales and seals of commercial value. The expedition made some minor discoveries and corrections to the existent charts, but did not result in any commercially interesting finding (Day 2013, 90).

As with Neumayer in Germany, other voices were raised in different places of the Western world, asking their governments to address the challenge of exploring the last unknown continent. However influential, those calls were unable to obtain a favourable answer. While proposals depended on personal ambitions and were framed as a national enterprise, there was no scope for gathering sufficient support. It would thus require that a community of scientists combined their efforts to exert enough pressure on governments and the community in order to make those expeditions possible.

In England, since the 1870s, some supported the idea of an Antarctic expedition. Between them, Admiral Sherard Osborn and the Second Master of Ross' expedition ship *Terror*, Captain Davis, elaborated some ideas about the importance of such an enterprise, but did not live enough to see those plans being implemented (Markham 1986, 1–2). In 1885, an Antarctic Committee was appointed by the British Association for the Advancement of Science by the retired Admiral of the Royal Navy, Sir Erasmus Ommanney, which elaborated an Antarctic plan endorsed by the government of Victoria with the condition of obtaining Her Majesty's Government's support. The Australian government requested assistance from the Royal Society, which appointed an Antarctic Committee that recommended a favourable response (Fogg 2000, 54:89), but H. M. Treasury decided in the negative. The argument for rejecting the proposal was that the expected benefits did not match the costs and that the anticipated scientific results from an enterprise such as proposed 'could do very little in the way of scientific investigation, and would have to be regarded simply as a

pioneer of future more complete and costly expeditions'.³⁷ Furthermore, the opinion that the colonies which would benefit from that knowledge should be the ones financing the enterprise was symptomatic of the little importance that the government in London gave to the Antarctic region at that time.

By 1890, the number of whales in the northern seas was diminishing, making the prospects of whaling activities in southern latitudes more appealing. In 1892, a Scottish whaling company based in Dundee decided to dispatch four ships in an expedition³⁸ to the Weddell Sea area in search of whales of commercial value. The Royal Geographical Society of London (RGS) and the Meteorological Office collaborated on the enterprise by providing instruments to make scientific observations on the voyage. On board were the young scientist William Speirs Bruce and the artist William Gordon Burn Murdoch, who had to fight against the roughness of the crew and their incomprehensibility of the conditions for scientific work, which severely restricted their scientific achievements (Hooker et al. 1894, 3:35).³⁹

Almost simultaneously, a Norwegian whaler, Christen Christensen,⁴⁰ sent a ship in command of the young—but experienced—Arctic navigator, Captain Carl A. Larsen in search for whales at southern latitudes (Day 2013, 93). The next year, another whaling Antarctic expedition was sent, this time organized by another Norwegian whaler, Svend Foyn, under the leadership of Henrik Bull and with Leonard Kristensen as captain. The expedition was delayed as a result of its sealing activities and had to wait until 1895 to reach Antarctica. On board was Carsten Borchgrevink who, with six other members of the crew, including Bull and Kristensen, reached the coast of what was known as Cape Adare, in the sector called

³⁷ C.G. Barrington [H. M. Treasury] to the Under Secretary of State of the Colonial Office [UK], London 3 Jan 1888. Correspondence 1894 – Plan of Operation and Instructions. Royal Society: Antarctic Committee – Report to the Council and others: AA/1/1/1-7. RGS-A/UK.

³⁸ They were the *Balaena*, *Active*, *Diana* and *Pole Star*.

³⁹ W. S. Bruce to The Secretaries of the Royal Geographical Society [UK], 21 Jun 1893. Bruce, William S.: RGS/CB7/18. RGS-A/UK.

As an example, Bruce complained about the crew throwing some samples overboard in the middle of the voyage.

⁴⁰ Christensen had already offered four ships to the Australian expedition but as the plan went to naught, he decided to organize an expedition of his own.

by the British Victoria Land. In that location, they erected a pole with a box painted with the colours of the Norwegian flag, even though its crew was of an international nature (Day 2013, 95) and the expedition lacked any official character.⁴¹ All three expeditions failed from a commercial point of view, but some of their effects would echo on the events to come and some of the people involved on them would have a key role on Antarctic history.

In 1893, while the whalers were trying their luck in the Southern Ocean, Clements Markham, an English Geographer and former secretary of the RGS, was elected President of that institution, declaring that he was determined to dispatch an Antarctic expedition and starting a series of lectures oriented to gather support for the endeavour (Markham 1986, 5). The RGS Council appointed a special Antarctic Committee⁴² which elaborated a report adopted in 1894 in which, apart from highlighting the ‘valuable scientific results’, emphasized the importance that the undertaking could have on the British Navy ‘by maintaining the spirit of enterprise’.⁴³ At the beginning of that year,⁴⁴ the RGS invited the Council of the Royal Society of London (RS), described as ‘the leading Scientific society in the Empire...’⁴⁵ to gather their efforts in influencing the government to dispatch an Antarctic expedition.

It was a bold strategy oriented to exert a lobby pressure on the government, which was considered the only actor capable of such an enterprise. But the strategic move backfired on Markham. In what the latter considered a treacherous movement (Markham 1986, 6), the RS approached the Admiralty looking for their views without

⁴¹ Day argues that the event was to provide evidence of their feat, instead of being any form of territorial claim.

⁴² The membership of the Antarctic Committee was: RGS President (Markham), Sir Joseph Hooker, Mr. Leigh Smith (never attended), Dr. John Murray (never attended), Sir Vesey Hamilton, Sir E. Ommanney, Sir G. Nares and Capt. Wharton R.N. (Markham 1986, 5)

⁴³ Report of Antarctic Committee, 1893-94 of the Royal Geographical Society. Correspondence 1894 – Plan of Operation and instructions: AA/1/1/3. RGS-A/UK.

⁴⁴ In ‘Antarctic Obsession’ (1986), Markham declares that the invitation to the RS was sent on 12th of December 1873. The letter I accessed on the RGS archives is dated 20th of February 1874. The difference in the dates is irrelevant for the present analysis and Markham’s date could be referring to other previous communication, either formal or informal.

⁴⁵ C. Markham (President R.G.S.) to the Royal Society [UK], London 20 February 1894. Correspondence 1894 - Plan of Operation and instructions: AA/1/1/1. RGS-A/UK.

informing or coordinating with the RGS. The answer received by the small deputation of the RS was that the financial moment was not propitious and thus they informed the RGS that the Council of the RS was ‘unwilling to take part in urging Her Majesty’s Government to enter, at once and single-handed, upon so costly an undertaking’.⁴⁶

However, not only Europeans were thinking about the possibilities that the Antarctic regions offered. In 1880, assigned by the Italian geographer Comendador Negri, his fellow explorer and Lt. of the Italian Navy Giacomo Bove, who took part in the Swedish Adolf Erik Nordenskjöld’s expedition to the North Pole, started to make efforts to organize an Antarctic expedition to the Antarctic Peninsula. Once the news got to Dr. Estanislao Zeballos, president of the newly formed *Instituto Geográfico Argentino*⁴⁷ (Argentine Geographic Institute, IGA), a civil society formed by prominent figures from the academy and the military, he met with representatives of the Italian government and the Italian community in Buenos Aires to express his support to the initiative and require that one official of the Institute be sent with the expedition. Zeballos based his support on the alleged projection of Argentine sovereignty to the Antarctic region⁴⁸ and the desire to collaborate jointly with Europe on the scientific enterprise (Bove 1883, 5–6). Bove responded highlighting the poor prospects that the expedition had in Italy due to the country’s involvement in Africa and offering that, instead of supporting and sending a representative, the Argentine government fully finance an Argentine scientific Antarctic expedition in order to ‘take to the Antarctic regions, the beautiful language spoken in del Plata shores, and write on the never trodden coast of Graham Land the most venerable name of the Republic’.⁴⁹ (Bove 1883, x, own translation).

⁴⁶ M. Foster (Royal Society) to Clements Markham (R.G.S.), 2 November 1894. Correspondence 1894 – Plan of Operation and instructions: AA/1/1/5. RGS-A/UK.

⁴⁷ The IGA must not be confused with the *Instituto Geográfico Militar* or the *Instituto Geográfico Nacional* which has an official character.

⁴⁸ “¿No es acaso el mas allá Austral de la tercera parte del Mundo Nuevo que sombrea la bandera y gobiernan las leyes Argentinas, lo que el Teniente Bove intenta explorar?” [Is it not the Southern farther of the Third New World over which the shadow of the flag and laws of Argentina is projected, what Lt. Bove intend to explore?] (Zeballos, cited in Bove 1883, V).

⁴⁹ The complete original sentence reads: “‘Que el Gobierno Argentino me acuerde uno de sus buques, sea á [sic] vapor ó [sic] á [sic] vela y 100,000 liras, y yo, si Dios quiere, prometo hacer llegar

The proposal was warmly received, but due to the territorial disputes with Chile, it was considered that no naval resources could be spared for any other end. Accordingly, Bove was commissioned to the scientific exploration of Patagonia and Tierra del Fuego (*Proceedings of the Royal Geographical Society and Monthly Record of Geography* 1887; Fontana 2014, 26) which took place between December 1881 and September 1882.

Once Bove was back, an Austrian-born professor of the University of Cordoba (Argentina) sent a proposal to the IGA proposing international simultaneous observations in several locations of the Antarctic as a way to investigate gravity and meteorology and suggested that Argentina installed bases on the sector below its territory, but there were no resources available for such an enterprise. In 1894, Luis Neumayer, (Fontana 2014, 26–27) requested permission from the government to explore Graham Land and committed himself to deliver the results to the Argentine government. The government granted him the requested permission but prohibited him from exploring any resources he could find.

In the commercial sector, Julio Popper, a prominent entrepreneur of the Argentine Patagonia, requested, in 1892, a commercial license to establish a whaling and sealing factory in the Antarctic, but he died later that year and the project came to naught (Fontana 2014, 26). That same year, the company Linck & Co requested from the Argentine government a license for fishing within Argentine waters between 40° and 65° of south latitude and was granted permission to establish a factory on the South Shetland Islands.

The calls for Antarctic exploration were numerous, but by the last decade of the 19th Century it was evident that no single private endeavour could fulfil the requisites of a sustained large-scale expedition. The different governments showed a mild interest at best, being occupied by other priorities: in Europe the inter-imperial competition, in North America the economic crisis and in Latin America the consolidation of territory and disputes with neighbouring countries.

á [*sic*] la región antártica, la hermosa lengua que se habla en las orillas del Plata, y escribir sobre las nunca holladas costas de la Tierra de Graham el nombre mas venerado de la República.’

Nevertheless, there was a relatively strong consensus among a relevant sector of the scientific community that Antarctica must be prioritized, particularly in that concerned with geography, geophysics and meteorology; and some commercial interests were attracted by the possible richness that the white unknown could hide. There were also important practicalities involved, particularly those related with navigation and other indirect issues, such as the economic impact of better weather predictions, the technological applications of a better understanding of atmospheric and electric phenomena, etc.

With all that in mind, in Berne, 1891, the 5th International Geographical Congress (IGC) passed a resolution proposed by Admiral Ommaney, appealing to the scientific societies of the world to join efforts in promoting Antarctic exploration. However, it would have to wait until 1895 at the 6th International Geographical Congress in London, once Markham had been elected president of the RGS and started its campaign to foster a British naval expedition to Antarctica, that the appeal, repeated once more as the third resolution of the Congress, ensued an effective impact.

The 6th International Congress in London gave a prominent place to polar exploration and, even when Antarctica received relatively limited attention (only two papers were presented regarding the southern regions: one from Neumayer and the other from Borchgrevink), the necessity of a southern polar expedition was something commonly expressed during the Congress. From the opening address of Markham until the close, expressions highlighting the importance of Antarctica for the development of science came from all quarters.⁵⁰ Besides the RGS president, Sir Joseph Hooker (UK), Dr. John Murray (UK), Sir George Baden Powell (UK), Gral. Greely (USA), Prof. Guido Cora (Italy), Adm. Ommaney (UK), Prof. Karl von den Steinen (Germany) and the already mentioned Borchgrevink (UK) and Neumayer (Germany) expressed their support for the idea of Antarctic exploration. Prof. Cora even got to propose that an International Antarctic Commission be established by

⁵⁰ For a full transcript of speeches, papers and discussion of the 6th International Geographical Congress, see: "Report of the Sixth International Geographical Congress" 1896.

the Congress which would emit actions as a way to finance an Antarctic expedition (“Report of the Sixth International Geographical Congress” 1896, 166–167).

Additionally, some of them highlighted the economic possibilities that the white continent could hold and the practical effects that the advancement in many scientific fields could bring. Murray and Ommaney, for their part, expressed their support for the idea of a British expedition manned by naval men, backing up the position already established by Markham and that eventually would be at the eye of the storm in the conflict between the RGS and the RS. But for the time being, the Congress was instrumental in defining a consensus, crystalized in its third well-known resolution:

That the Congress record its opinion that the exploration of the Antarctic Regions is the greatest piece of geographical exploration still to be undertaken. That, in view of the additions to knowledge in almost every branch of science which would result from such a scientific exploration, the Congress recommends that the scientific societies throughout the world should urge, in whatever way seems to them most effective, that this work should be undertaken before the close of the century. (“Report of the Sixth International Geographical Congress” 1896, 780)

Hence, the Congress was crucial in making the consensus explicit and in giving it a sounder symbolic impact.⁵¹ The patronage of the Congress by the Royal family ⁵² and participation of government officials from Britain and abroad gave the congress resolution an official appeal. At the same time, the broad participation ensured that the resolutions of the Congress were regarded as expressive of the ‘civilized’ world, with 50 countries represented through 76 delegates from 32 governments and 190 delegates from 91 geographical societies from 27 countries⁵³ (“Report of the Sixth International Geographical Congress” 1896, xxxvi).

⁵¹ The President of the IAG commented in 1897: ‘El voto del Congreso de Londres ha repercutido en el mundo, reavivando el entusiasmo que un día despertaron los misterios de los mares antárticos y que hoy se ambiciona descurbrir, no solamente para la ciencia, la humanidad y la civilización, sino para el comercio en una de las especulaciones que más interés despiertan por el agotamiento probable de sus análogas en las otras regiones homólogas del globo’ (Seguí 1897, 30)

⁵² The Queen of England was Patron and the King Vice-Patron of the Congress, while the Duke of York was appointed Honorary President.

⁵³ I base my calculations on the chart provided by the Report. However, on the previous page, the report informs that 40 (instead of 50) different governments were represented, with 76 government

Neumayer insisted on the need for simultaneous coordinated magnetic observations, while Borchgrevink's accounts of its landing in what seems to be Antarctic land encouraged the prospects for attacking the interior of such a region. The feeling of urgency was something commonly expressed, usually combining an internationalism reflected in the idea of the nations of the 'civilized world', but also a nationalism expressed through the call for assuming a position of vanguard within that world. Thus, the national character of science was something that drew a line through the prospects of cooperation that would hamper any further attempt of a more transnational character. Furthermore, the fact that prominent scientists coming from many corners of the world were able to reach an agreement on the urgent need of Antarctic exploration did not mean that the respective governments would follow suit, as many painfully learned in the years to come.

2.3 Under the Impulse of Science: The Drive of Knowledge at the Beginning of Antarctic Exploration

The close of the 6th IGC saw many of the scientific efforts to fructify in a diverse range of expeditions. Cooperation was limited at best and the proposals for Antarctic exploration were usually framed on national interests and symbolic appeals. But the demands of exploration and the requirement of expertise gave an international composition to many of those expeditions, to which the usual spirit of scientific comradery added assistance in the form of information and advice.

While European powers were engaged on an inter-imperial competition—with Germany embarked in becoming a colonial and naval power—that rivalry did not ensue a more proactive attitude of their governments in regards to Antarctica. Scientists and scientific institutions usually had to struggle to get some sponsorship or official character for their expeditions. Even when part of the literature has

delegates from 30 governments (instead of 32) and 190 delegates from 71 geographical societies and another 20 societies of 'kindred kind'.

identified in the inter-imperial rivalry⁵⁴ the cause of the competitive atmosphere of the Antarctic exploration of the turn of the 20th Century, the latter did not seem to have been a result of the competition at the global systemic level. Instead, the competition seems to have arose from a complex combination of overlapping identities, personal interests, and the need for gathering support and secure funding.

In that process, many explorers and scientists—and of course, their institutions—learned how to frame the issue in a more effective way to approach government, wake commercial interests and fire the public imagination. As a result, the campaigns were usually private initiatives backed up by some scientific institution and funded by a combination of some form of official support and private subscriptions. But that mixed character and identity also induced important contradictions that determined the conflicts that would arise during that phase, and that would structure the way in which people, institutions and governments relate with Antarctica.

A little before the 6th IGC, Georg von Neumayer had already gathered support during the Eleventh German Geographical Conference in Bremen, in which Antarctic exploration occupied a central place in the discussions (*The Geographical Journal* 1895, 589) and a Commission for South Polar exploration was formed (Lüdecke 2003; Day 2013, 101). The 6th IGC added international force to that proposal, and efforts were made to secure governmental support.

However, it would be the Belgian Adrien de Gerlache Gomery who first secure the funds that allowed him to mount a small expedition to Antarctica. Having obtained the support of the Royal Belgian Geographical Society, and some funds for the original planning of the expedition, Gerlache went in early 1895 to Norway, to embark with Norwegian sealers to Jan Mayen and East Greenland waters and study their methods (Cook 1909, 40). On his way back he tried to propose a scheme to King Leopold which did not obtain the approval of the government. Consequently,

⁵⁴ See for example: Luedtke 2011; Lüdecke 2004.

he went on with a much modest proposal⁵⁵ and the Royal Belgian Geographical Society opened a subscription list to obtain funds from private donors (Arctowski 1901, 355). However, it was only in 1896, with Parliament's aid, that the Belgian explorer was able to start the preparations for the expedition. A further government credit was granted to secure the restricted budget,⁵⁶ and the *Belgica* was ready to sail in August 1897. With a crew of international origin—including the Norwegian Roald Amundsen, who later on would gain fame for being the first to reach the South Pole—the expedition was, in the words of Frederick Cook, surgeon of the expedition: 'the first to send a scientific venture, with trained specialists and appropriate equipment to the Antarctic...' (Cook 1909, ix).

While the Belgian expedition was on its way to Antarctica, the Royal Geographical Society and the Royal Society were insisting on getting official support for a naval expedition to Antarctica. In April 1897, the RGS Council finally decided that an expedition should be sent to Antarctica (Markham 1986, 8) and in October 1897, in a letter directed to the prime minister of the United Kingdom, Lord Salisbury,⁵⁷ the organizers of the British National Antarctic Expedition referred to the repeated arguments of the benefits to all branches of science,⁵⁸ the tradition of scientific exploration and discovery of the British nation and the practical effects that it would have on the training of the naval men in times of peace. Additionally, they also took the opportunity to highlight that other expeditions were being organized, calling on the government not to abdicate its leading role in geographical and scientific exploration.

⁵⁵ The original proposal was budgeted at 800,000 francs, about £32,000, which was adapted to fit to a £12,000 equivalent. See: Arctowski 1901.

⁵⁶ The first donor was M. Ervest Solvay who provided 25,000 francs (about £1,000). The Belgian Parliament approved a sum of £4,000 which with the private donations made about £9,320. The final governmental credit for covering the remaining funds was about £2,400. All values are nominal at that time and extracted from: Arctowski 1901.

⁵⁷ Letter to Lord Salisbury, 26 October 1897. Correspondence with Foreign Office (1897-8): AA/1/4/2. RGS-A/UK.

⁵⁸ The letter even refers to a resolution from the British Association [for the Advancement of Science] presided by Lord Salisbury, in which it was stated the importance and urgency of Antarctic exploration.

In order to bring funds to the project and take advantage of its influence, once more the RGS invited the RS to join its efforts. However, the prime minister in consulting with the Treasury and the Admiralty, not only rejected the possibility of governmental sponsorship, he also informed that the colonial governments would not cooperate with that end.⁵⁹ Nonetheless, by that time, another expedition under the British flag was setting sail to the Antarctic regions.

Since his return in 1895, Borchgrevink was trying to raise the Australian interest in Antarctic exploration, giving lectures for the Royal Geographical Society of Australasia (Borchgrevink 1901, 9–10). However, the interest raised could not be matched by the necessary funds. It was only in 1896 that Borchgrevink met and presented his plans to Sir Georges Newnes, who in 1898 provided the funds to set sail under the British flag. It seems that Borchgrevink asked W. S. Bruce to join him, but Bruce rejected the proposal.⁶⁰ At the moment of its departure from Christiania, the British Consul-General, the Hon. S. Dundas, considered it opportune to ‘drink to the health of “King Oscar, the Science King”’ (Borchgrevink 1901, 23), acknowledging that even though the expedition was made under the British flag, the commander and the ship were Norwegian. The acknowledgement was justified, as not only the commander and the ship, but also most of the crew were from the Nordic country. A stop in London served to take the provisions on board, embark the English members of the expedition and give publicity to the departure.

In other quarters, the Argentine Geographic Institute was insisting on organizing an Antarctic expedition. In 1896, Francisco Seguí, by then president of the IGA, sent a letter to the Argentine president in which he proposed establishing a base on the South Shetlands. He expressed that the region had commercial and scientific interests, with the latter being more important than the former; and that the Argentina was bound by its rights and its geographical position to take that step in the

⁵⁹ Reply from Lord Salisbury, 9 June 1898. Correspondence with Foreign Office (1897-8): AA/1/4/2. RGS-A/UK.

⁶⁰ Bruce to Keltie, 4 March 1896. Bruce, William S. 1881-1910: RGS/CB7/18. RGS-A/UK.

exploration of the Antarctic (Seguí 1897, 31). The proposal obtained preliminary approval from the Navy, but the expedition came to nothing (Fontana 2014, 26).

In Germany, Erich von Drygalski was chosen leader of the expedition in 1898 and immediately concentrated his efforts in gathering support. Despite the initial expressions of interest that came from several quarters, it was evident that governmental aid was needed. With that in mind, in January 1899, Drygalski organized a meeting with the most influential circles of Berlin (*The Geographical Journal* 1899a, 406–407). In April of that year, the Minister of the Interior informed Neumayer that the expedition would be financed through the Imperial internal budget. Immediately, the Germans contacted the British in order to propose scientific cooperation and concert simultaneous observations. The official character given to the expedition meant that a navy official was assigned to supervise the organization of the expedition.

With Gerlache in Antarctica, Borchgrevink engaged with preparations to depart, and with the Germans advancing with their plans, the RGS and the RS organized, at the beginning of 1898, a special meeting to highlight the importance of Antarctic exploration and call it to the public's attention.⁶¹ Both societies formed a joint committee to apply for a government grant and elaborated a letter sent to the prime minister and the Treasury.⁶² In June 1898, the RGS Council approved a substantial subscription, followed by other important donations, that of Mr. L. W. Longstaff was the most significant,⁶³ allowing the preparations to start. The favourable perspective for the expedition facilitated the Prince of Wales finally accepting being Patron of the Expedition and the Duke of York Vice-Patron. In a letter dated April 1899 to the RGS, the assistant private secretary of the Chancellor

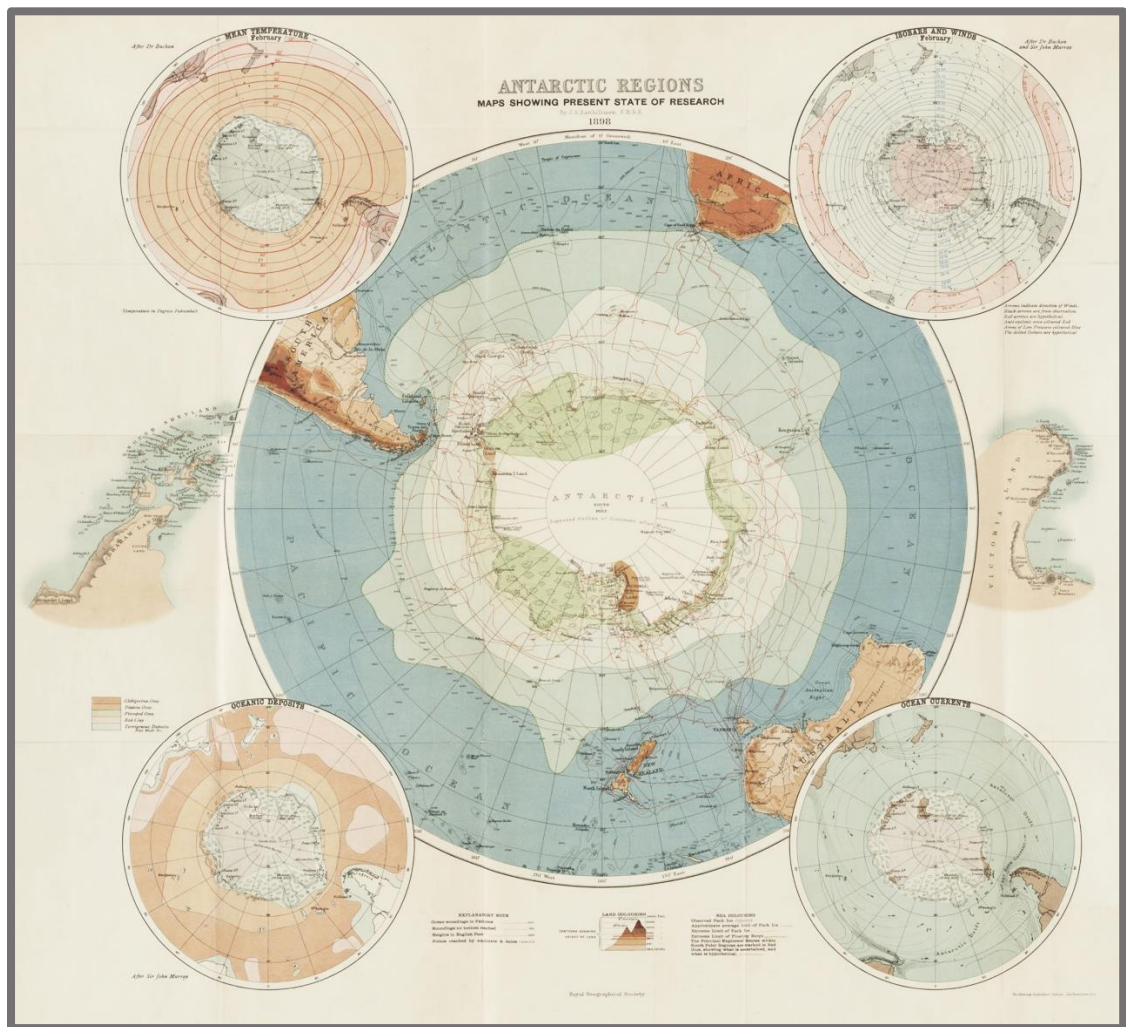
⁶¹ In that meeting John Murray presented a paper on the scientific advantages of an Antarctic exploration and the German Georg von Neumayer and the Norwegian Dr. Nansen were present.

⁶² To Her Majesty's Prime Minister and the First Lord of Her Majesty's Treasury, Undated. National Antarctic Expedition of 1901-04 (Scott's): correspondence regarding Finance and general issues: MS/547/8. RS-A/UK. A 'Draft version' approved by the Joint Committee could be consulted in: Draft by Sir Clements Markham, approved by the Joint Committee, Undated. Memorandum by the President" (For Members of the Council only - Confidential) and others - 1898-1899. Joint Antarctic Committee 1898-99: AA/1/5/1-5. RGS-A/UK.

⁶³ Mr. Longstaff contributed £25,000 of a total budget of £90,000. The eventual Government aid was £45,000.

of the Exchequer, Sydney Parry, suggested that any proposal made to the Treasury should avoid any sentimental argument such as the one made on the last memorial and present a definitive scheme, maybe replacing Australia's help with funds collected by the societies, highlighting that cooperation with Germany was expected and be signed by the scientific bigwigs.⁶⁴ The societies followed suit and the First Lord of the Treasury, Mr. Balfour, accepted a deputation from the two societies in June 1899 to present their case.

Picture 1: Antarctic Regions: Maps showing present state of research in 1898



Source: Bartholomew, J.G., 1898. National Library of Australia. Australia.

Balfour expressed his sympathies for the enterprise and, while he was speaking for himself, he committed to expressing his views to the government. He

⁶⁴ Sydney Parry to Peel: Antarctic Exploration, 13 April 1899. Appeals to Government (National Antarctic expedition 1903-5): AA/2/2/1-25. RGS-A/UK.

also expressed his support for the idea of collaborating with the Germans which was an impulse to the ‘cosmopolitan and international character of true science’.⁶⁵ He also added that he didn’t envisage any territorial rivalry, but a scientific one at most; and that he could not imagine any advocate of imperial expansion to direct his view to the Antarctic regions. A few weeks later, a favourable answer was received,⁶⁶ stating that a parliamentary grant in aid of £45,000 would be made if both societies could grant a similar amount from other sources. The RGS Council agreed to concede an additional £3,000 in order to secure the governmental grant and, thus, the National Antarctic Expedition was finally a reality.

Gerlache’s expedition was not without incident. After calling in Punta Arenas, Chile, where part of the crew deserted, the expedition went to Ushuaia to fill its coal stores, having accepted an offer from the Argentine government which provided the item without cost (Arctowski 1901, 358). On its way to Harberton, near Ushuaia, the *Belgica* struck a rock and got stranded. The swell eventually freed the ship, which continued its way through the Beagle Channel to Staten Island. It was middle of January 1898 when the expedition headed to Antarctica and the season was advanced. After passing near the South Shetland Islands, the plans for advancing to the Weddell sea were impeded by the ice conditions. Instead, the expedition headed east of the Antarctic Peninsula, discovering a long channel with numerous islands and making a detailed charting of the region. However, the ship soon got trapped in the ice and the exploration came to a sudden end, drifting with the ice for the next 13 months (Day 2013, 103) until the ship was freed on February 1899 and got back to Punta Arenas at the end of March. Being the first to winter, by accident and without adequate equipment, the expedition was undoubtedly an encouragement to those who were planning to establish winter quarters on future expeditions. Also, it collected important scientific and geographical information and provided the first Antarctic

⁶⁵ The National Antarctic Expedition – Deputation to the Government. Appeals to Government (National Antarctic expedition 1903-5): AA/2/2/10. RGS-A/UK.

⁶⁶ Francis Mowatt [H.M.Treasury] to Lord Lister [President, RS], 3 July 1899. National Antarctic Expedition of 1901-04 (Scott’s): correspondence regarding Finance and general issues: MS/547/8. RS-A/UK.

experience for the man who would be the first person to reach the South Pole 13 years later.

After leaving London on August 1898, Borchgrevink's ship, *Southern Cross*, finally headed to Antarctica from Hobart on December of the same year. The expedition had to fight hard in order to get a passage through the pack, but finally reached Cape Adare by the middle of February 1899. After erecting two Norwegian prefabricated huts and landing the stores, they rose the Union Jack declaring that it was the first flag ever to be hoisted in the Antarctic continent (Borchgrevink 1901, 99), however, without any kind of formal claim (Day 2013, 107). The *Southern Cross* withdrew to New Zealand, while the landing party occupied themselves in making observations, collecting specimens and making short sledge journeys. The ship finally came to take the landing party in February of the following year, and Borchgrevink decided to head to the Ross Sea in order to attain some achievement that could be used for publicity. He finally managed to land a party at the Ross Ice Barrier and reach 78° 50' of south latitude, at that time the most southerly latitude ever reached. The expedition's results were disappointing, and on its return to Hobart at the end of March 1900, they found that the outbreak of the Boer War was absorbing all the public's attention, giving no room to their scientific and exploration feats. Furthermore, Bernacchi's observations indicated that no commercial profit could be made in the continent (Day 2013, 107–108).

With Gerlache already back in Belgium, Borchgrevink in his winter quarters of Cape Adare, and the RGS/RS National Antarctic Expedition (NAE) and Drygalski German expedition with assured funding, the 7th International Geographical Congress took place in Berlin between the 28 September and the 4 October 1899. The 7th IGC was, in the words of a commentator of that time, had more numerous attendees but was less internationally representative than the London Conference of 1895 (*The Geographical Journal* 1899b). There were no official delegates from countries or societies and the language used in general business was German only, making it more difficult for foreign participants to engage in the social or academic events (*Nature* 1899, 632).

Despite the fact that the preparatory works seemed not to give a prominent place to the Antarctic issue (Luedtke 2011, 174), it ended up receiving considerable attention (*Nature* 1899, 632–633; Gallois 1899, 8:462; Hahn et al. 1900, 38). Two papers, one from Markham and one from Drygalski, described the advancements on the plans for the NAE and the German expeditions, respectively; while Arctowski gave some accounts of the works on the *Belgica* and Professor Nielsen some details regarding Borchgrevink's expedition. As in the previous meeting of London, the IGC moved a resolution regarding Antarctica, declaring that:

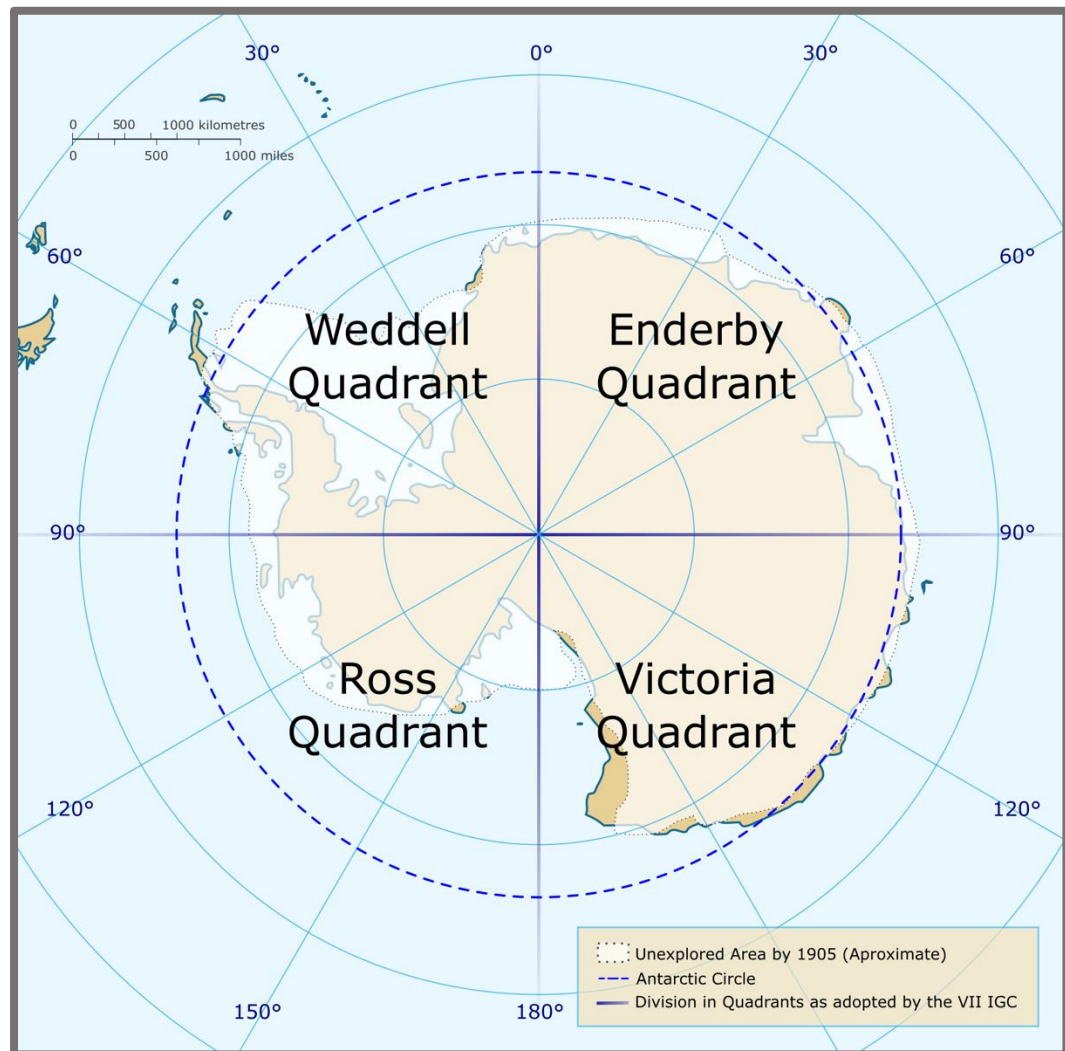
Having considered the division of the work of the approaching antarctic expeditions as described in the reports which have been submitted, the Congress considers that a satisfactory method of international co-operation has been arrived at with regard to physico-geographical, geological, geodetic, and biological investigations. With regard to meteorological and magnetic work, the Congress feels that it is desirable to arrive at a closer agreement, and nominates an international committee with the object, (1) of determining the scope and methods of investigation of the magnetic and meteorological observations to be carried out by the expeditions themselves, and (2) of organizing a series of simultaneous and inter-communicated observations at points favourably situated outside the antarctic region. (*The Geographical Journal* 1899b, 543–544)⁶⁷

The presentations of the British and German upcoming expeditions gave emphasis to the cooperative efforts, and Markham proposed a scheme of division of Antarctica into four quadrants divided by the 0, 90's and 180 meridians, which he designated with English names (see *Figure*): Ross (180° to 90°W), Weddell (90°W to 0), Enderby (0 to 90°E) and Victoria (90°E to 180°). The British would concentrate on the Ross and Victoria quadrants, while Enderby and Weddell would be left to the Germans. As adopted, the division assumed a geographical formalist approach, using the 0, 90's and 180° meridian, instead of any other historical reference. The division understood Antarctica as a region on its own, without linking it to any territory outside of it. In a way, it inaugurated the division in pie-shaped sectors that were used

⁶⁷ A somewhat different version is presented in: *Nature* 1899.

later on for territorial claims but, at that time, the proposed scheme was mainly motivated by practical reasons more than any kind of territorial ambition.⁶⁸

Figure 5: Sketch Map of the Division of Antarctica in Quadrants by Markham's proposal at the 7th IGC



Source: Elaborated by the author.

Regarding the proposed schemes of activities, a commentator at that time already differentiated between the English emphasis on the ‘spatial expansion of

⁶⁸ In a Handwritten ‘Plan for the expedition’ of December 1899, Markham justifies the choice of Ross and Victoria quadrants as the ones with better chances for securing the exploratory and scientific results pursued by the RGS and the RS and on the grounds that the magnetic data of the promised magnetic station by the Argentine Government in Staten Island would not be as reliable as the one in Melbourne. It also declared that the Weddell quadrant would be under the ‘German sphere’ (Plan of the Expedition [Manuscript by Markham], Dec 1899. Joint Antarctic Committee 1898-99: AA/1/5/4. RGS-A/UK, pp.11-12).

knowledge' and the German intention of 'scientifically deepened work in a more restricted space' (Hahn et al. 1900, 39). That dichotomy between exploration work and scientific systematic research would be something that would characterize the distinction, not only between the German and British NAE expeditions of the beginning of the 20th Century, but also amongst the aims that differentiated the objectives followed by both partners within the NAE. Additionally, the issue of the use of dog hauling as a mean for polar exploration was discussed, with Clements Markham presenting an emotional rejection of its use, and the prominent polar explorer Dr Nansen defending a much more pragmatic approach. That discussion would also be part of a broader debate between the emotional and moral values attached to Antarctic exploration and the pragmatism of scientific advance—or any other instrumental value—which would reach its peak on the race to the pole of the 1910s.

As a whole, the 7th IGC institutionalized some of the challenges that international cooperation in Antarctica would present. Collaboration between Drygalski and the RS/RGS took the form of division of labour among independent national expeditions that merely standardized measurements of magnetic and meteorological data, instead of a deepened cooperating scheme and commonly agreed goals and methodology. That, as argued by some authors (Lüdecke 2003; Luedtke 2011), seems to have been concordant to the rising tensions of the inter-imperial competition between Germany and the UK, but it also seems to have arisen from the very nature of the organization of science nationally and internationally, as well as from the requirements of Antarctic exploration of that time.

First of all, the internationalization of science was at its infancy. The compartmentalizing of scientific fields, the organization of scientific congresses and the conglomeration of scientists in associations and academies of sciences led to a process of increasing international involvement, but did not germinate in any kind of international scientific organization before the last year of the 19th century (Greenaway 1996, 1–18). In Germany, some academies formed a cartel as a way to increase collaboration between the locally based scientific associations. Eventually, the concept was expanded to have an international reach; but the invitation to

participate was made to individual associations following their scientific credentials, and not with a view to making participation more international. Thus, international scientific collaboration was limited to a mutual acknowledgement, debate and interchange of ideas; and standardization and coordination of activities continued to be limited to some specific scientific fields.

Furthermore, the lack of political interest in Antarctic exploration—revealed by the aforementioned reluctance to launch official expeditions and the difficulties in obtaining governmental funding aid—determined that private subscriptions were pursued through the appealing to national sentiments and the promise of prestige that would accrue from it. It was the idea of prominence within the ‘civilized’ nations of the world that first was mobilized as a sentimental appeal for supporting the Antarctic endeavour. That also was definitive in shaping the expeditions in competitive terms. However, that competition was not only between nations, but also between individuals and scientific organizations within each country.

But even with those characteristics, cooperation regarding the southern regions advanced. Following the resolution of the Berlin IGC, one of the simultaneous and inter-connected observations outside the Antarctic was planned to be conducted in an observatory to be established in Melbourne, Australia; while the Argentine government was approached by Markham in May 1900, with a view to collaborate on converting the Staten Island observatory into a first-class station. The Argentine government was prompt to answer positively to the proposal and in October of the same year a presidential decree⁶⁹ authorized the installation of the new observatory⁷⁰ and acquiring the required instruments.

On the other hand, competition at individual and institutional level was raising tensions inside the UK, revealing some of the cleavages that would be characteristic of Antarctic affairs. At the centre of most of those conflicts was Sir Clements

⁶⁹ See: Draft request from National Antarctic Expedition to Observatories for co-operation: AA/10/3/7-14. RGS-A/UK.

⁷⁰ The *San Juan de Salvamento* lighthouse was not appropriate and was ineffective in guiding navigation so a different location was selected. The new observatory and lighthouse was thus installed on a little island north of Staten Island known as *Isla Año Nuevo*, renamed as *Isla Observatorio* (Observatory Island) due to its new function. The installations became operational in February 1902.

Markham, who conceived his Antarctic plan as a means for training young naval men, to prove themselves in times of peace and develop their leadership skills. Exploration was seen by Markham as the main objective, and science—understood as permanent and thorough observations on a limited space—a somewhat secondary aim. That view, to which the Council of the RGS also ascribed, led to the conflict between the RGS and the RS regarding the NAE, but also between Markham and W. S. Bruce. In fact, it seems that Markham rejected and played against any Antarctic project that would not be under his direct and total control (Markham 1986, xvi).

Since the very beginning, the partnership between the two societies was conflictive. Markham seems to have partnered with the RS in order to gain influence but was not willing to accept them fostering their own scientific agenda nor imposing their way of business. The conflicts began with simple disagreements regarding the order of payments and other minor operative details.⁷¹ However, the views of the RGS and the RS regarding the aims of the expeditions were such that the whole partnership came to the brink of collapse in February 1901.

The main argument was about the respective roles and hierarchy of the naval and civilian leaders. In the German expedition, complete control was given to Dr. Drygalski, that was not possible in the British case due to the naval regulations that impeded any civilian control over naval operations at sea. However, the RS and the scientific leader of the expedition, Dr. John Walter Gregory, envisaged that a landing party would be established under the command of the ‘scientific leader’ and would only be subject to naval discipline during the on-board voyage. The young naval officer, Robert Falcon Scott, who was proposed by C. Markham as leader of the expedition, promptly rejected that possibility, and conditioned his participation to the complete control of men on-board and at land. That difference was materialized through different versions of the instructions emitted to both leaders. The original plan, drawn up by Markham since the very inception of the expedition, put all the men and operations under the complete control of the naval commander, and the

⁷¹ Sir C. Markham described the situation as: ‘from 2 April 1899 to 26 November 1900, *I was in charge of the executive work of the Expedition; but worried and hampered by the Royal Society’s Committees...*’ (Markham 1986, 19; Emphasis Added)

possibility of wintering the ship or establishing a wintering party was under his complete discretion. The other version, pushed by the RS and based on Gregory's condition of accepting the leadership of the scientific work, established that a landing party would winter in the continent, independent of the ship and the naval command, while the ship would retreat from the ice to conduct oceanographic and magnetic work at open sea.

The dispute ended up with the withdrawal of the RS instructions and the acceptance of Scott and Markham's conditions, that motivated Gregory's resignation due to what was described as a sacrifice of the interests of science.⁷² Some analysts considers that the strife limited the scientific possibilities of the expedition, prioritizing adventure over research, and that it could have limited, not only the NAE, but also all future British involvement with Antarctica (Markham 1986, xix; Huntford 2012, 183). However, the British Antarctic expeditions depended to a great extent on Markham and the RGS, and the RS was not willing to jeopardize its prestige by letting the conflict bring down the expedition efforts.

In the meanwhile, W. S. Bruce was obtaining support for his own venture to Antarctica. Since his return from Antarctic in 1893, Bruce was making proposals to the RGS to lead an expedition without success.⁷³ Believing that Markham would be favourable to his involvement on the upcoming NAE, he offered his services but received the disappointing suggestion of applying as a scientific assistant (Day 2013, 112). Not being discouraged, Bruce managed to gather support from the Royal Scottish Geographical Society for organizing an expedition of its own, which eventually obtained funding through the subscriptions of Andrew and James Coats (Swinney 2007, 51). With funding secured, he offered the RGS the opportunity to collaborate as a second ship in the expedition, conceiving his participation as part of

⁷² Memorandum on the Recent Negotiation Concerning the National Antarctic Expedition, Presented to the Council by the Officers. 'To the President of the Royal Society' [Unsigned, p.4]. National Antarctic Expedition of 1901-04 (Scott's): correspondence regarding Finance and general issues: MS/547/8. RS-A/UK.

⁷³ Bruce proposed first to establish a party in South Georgia and, later on, to use the services of whaling companies to establish parties on 'Graham Land' and 'Victoria Land'. See: Letters from 22 August 1893 until 11 March 1896. Bruce, William S. 1881-1910: RGS/CB7/18. RGS-A/UK.

a wider British Antarctic campaign. Instead, his efforts were qualified by Markham as ‘mischievous rivalry’.⁷⁴ With little support from the government and the RGS, Bruce renamed the expedition the Scottish National Antarctic Expedition as a way to emphasize the nationalist character of the enterprise,⁷⁵ which would direct its efforts to the ‘Weddell Quadrant’ as a way of complementing the works undertaken by the German and the NAE expeditions in the Enderby, and Victoria and Ross quadrants respectively.⁷⁶

At the same time, the Swedish Otto Nordenskjöld started to organize his own expedition to the same region as Bruce. Aiming to ‘investigate the American-Atlantic division of Antarctica’, with no governmental support (Nordenskjöld 1906, 183:759) and many difficulties in finding private donors to fund the expedition (Nordenskiöld 1904, 24:31), the organization suffered from many limitations and delays. The limited gear and aged vessel were balanced by an experienced crew, which eventually resulted in being crucial to the fate of the group. It seems that, once Nordenskjöld and Bruce became aware that they were heading to the same region, they made plans for simultaneous coordinated work that had to be abandoned once Bruce’s expedition was postponed (Nordenskjöld et al. 1904, 15).

With the full command of the NAE over Scott, the preparations for the departure advanced at good pace. At the end of 1900, Scott went to Norway to seek Nansen’s advice and to Berlin to meet Drygalski. By the middle of 1901 the *Discovery*, a ship built specifically for the expedition, was loaded with the stores and finally sailed at the end of July. After social events and celebrations, the ship was finally heading to open waters. Despite Markham’s efforts and the King’s approval, the *Discovery* was

⁷⁴ W.S. Bruce to Sir G. D. T. Goldie, 7 October 1907. Bruce, William S. 1881-1910: RGS/CB7/18. RGS-A/UK.

⁷⁵ In the ‘Prefatory Note’ of Rudmose Brown, Mossman and Harvey Pirie’s book, W.S. Bruce declared: ‘The volume is especially for Scots throughout the world.’ And: ‘While “Science” was the talisman of the Expedition, “Scotland” was emblazoned on its flag; and it may be that, in endeavouring to serve humanity by adding another link to the golden chain of science, we have also shown that the nationality of Scotland is a power that must be reckoned with.’ (Rudmose Brown, Mossman, and Harvey Pirie 1906, viii)

⁷⁶ In fact, Bruce’s plans for that region were outdated and the way in which the planned expeditions of Drygalski and the NAE oriented their activities gave a perfect opportunity to justify his choice.

flying the blue ensign instead of the white ensign of the British Navy due to the Secretary of the Admiralty's objection to the use of the official banner (Markham 1986, 29).

At the beginning of August, Drygalski was leaving on board the *Gauss*, another ship built specifically for the purpose of the expedition. What was considered a *great international Antarctic campaign* (Capdevila and Comerci 1986, 47; Rudmose Brown, Mossman, and Harvey Pirie 1906, ix; Nordenskjöld 1906, 183:759) was launched. Nordenskjöld and the *Antarctic* would follow in the middle of October of the same year, and Bruce with the *Scotia* at the beginning of November 1902.

The British NAE's first task was to establish a magnetic observatory in New Zealand, which it did in December 1901, after which they set sail to Antarctica. Soundings, specimen catching and magnetic observations were made throughout the voyage and they explored along the (Ross) Ice Barrier, until February when they established their winter quarters at a convenient bay in Mc Murdo Sound, there the *Discovery* was trapped by the ice and a hut and two observatories erected on land. The expedition made observations and sledge travels, including one in a southward direction that allowed Scott to claim he had been furthest south, although they had to abandon their efforts prematurely due to the health condition of one of the party's members, Ernest Shackleton, who later on would establish his own fame in Antarctic exploration.

In the meanwhile, in London, other efforts were being made in order to support the expedition. One of the key points of argument between the RS and the RGS regarding the instructions for the expedition described above was the wintering of the ship. The RS and Gregory were in favour of establishing a wintering party and avoiding the ship getting trapped in the ice, allowing it to take observations at sea. In contrast, the RGS, Markham and Scott wanted the ship to winter in Antarctica and be used as a base for sledge travels into the interior. The latter position, which ended up prevailing, had the disadvantage of requiring the ship to be freed the next season or a relief operation to be sent. However, the funds granted were sufficient for a single ship expedition, and the NAE obtained governmental support on the understanding that a single ship would suffice. However, as soon as the *Discovery* was dispatched,

Markham started gathering funds for a relief operation, but was short of about £7,500 of an estimate of £20,000, for which he made an appeal to the Treasury for additional funding, on top of the £45,000 already granted, in order to secure the relief operation. The refusal of the government was categorical, and Markham tried in vain to extend the responsibility to the Admiralty and the government in general. In the end, additional private subscriptions secured the operation and the *Morning* was bought, fitted and sent to support the *Discovery*.

The relief operation avoided a tragedy, as the *Discovery* was heavily trapped in the ice, with no prospect of being freed; and the health and morale of the expedition were deteriorating rapidly. The stores were resupplied and several men, Shackleton amongst them, were sent back before the *Morning* departed in order not to be trapped by the ice. However, the crisis was not over, as no money was left for the next season's relief operation and the prospects of the *Discovery* being freed from ice were far from clear. Markham looked again for private subscriptions and government assistance, but the prospects of private donors were exhausted, and the government insisted on their position.⁷⁷ Claiming that would be criminal to let the expedition be left to their fate, Markham antagonized the already annoyed RS members and the government; but the latter finally resolved to take charge of the relief operations under the condition that the whole enterprise would be left under its command. With no real alternative, Markham finally surrendered, and the Navy took control of the NAE. The taking of command by the Admiralty was a strong blow to the reputation of the scientific societies, seen as incapable of organizing such an expedition. The RS would afterwards remain removed from Antarctic endeavour for many decades, while the RGS would limit itself to providing their avail to exploration initiatives, token support and governmental lobbying.

On the German side, at the end of January 1902, after erecting a station for meteorological and magnetic observations on the Kerguelen Islands, the *Gauss* headed south reaching the polar circle at 90°E, where it got trapped by the ice in

⁷⁷ For the whole interchange regarding the sending of a relief ship for the 1902-03 and 1903-4 seasons see the series of letters in: Correspondence between Sir C. Markham and the Government: AA/17/1/1-18. RGS-A/UK.

February 1902. Having found new land and named it Kaiser Wilhelm II, an observatory was built over the ice sheet for geographical, meteorological and magnetic observations. Short sledge journeys served to survey the area with some accuracy and the structure and movement of ice was studied, as well as the geology, botany and biology of the region. A cairn containing a document with the history of the expedition was built and a German flag raised beside it. Once the ship was freed in February 1903, Drygalski attempted to reach higher latitudes in a westerly direction but was hampered by the ice conditions. Having reached Cape Town, he required permission to make another attempt into the Antarctic but received instructions from the Ministry of Interior to head back home as soon as possible as funds were already exhausted (Lüdecke 2003, 40; Day 2013, 117). At the end of November 1903, Drygalski and the *Gauss* arrived at Kiel.

The Swedish Nordenskjöld ship, *Antarctic*, departed in the middle of August 1901 from Gothenburg. After calling at Sandefjord in Norway, they made a stop in London, where Nordenskjöld acquired some instruments and was invited by the RGS to share a lunch with other polar experts, after which he met Bruce in order to make arrangements in case they required assistance (Nordenskjöld et al. 1904, 14–16). In December of that year, they called at Buenos Aires where they filled the stores and met the artist of the expedition, Mr. E. W. Stokes, who would join the expedition at his own expense. In addition, the director of the Argentine observatory installed in Staten Island had written to Nordenskjöld in July to request that an officer of the Argentine Navy join the expedition. Despite Nordenskjöld's doubts that an unknown member who did not spoke their language should join the expedition, he swiftly accepted after meeting Second Lieutenant José María Sobral (Nordenskjöld et al. 1904, 39–43). As a sign of appreciation, the Argentine government promised to assist the expedition in every way possible. Amidst a multitude of people, the *Antarctic* finally left Buenos Aires by the end of December.

After a stop in Port Stanley (Puerto Argentino) and Staten Island,⁷⁸ the *Antarctic* finally headed to Antarctica, reaching King George Island (25 de Mayo) of the South Shetland group on 10 January, landing the following day in a small sheltered bay on Nelson Island. Afterwards, the expedition surveyed the channel west of the Antarctic Peninsula⁷⁹ before heading to the east, where the main researches of the expedition were to take place. Being impeded by ice conditions from getting to high latitudes, the expedition established its winter quarters in Snow Hill Island by the middle of February 1902. There, a party of six, Nordenskjöld, three other scientists (including the Argentine Sobral) and two sailors, stayed for the scientific work, while the rest retreated with the *Antarctic* in order to avoid being trapped by the ice. Sledge journeys were made in order to survey the region, but the severity of winter conditions confined them in the expedition hut, they used the time to conduct astronomical, meteorological, magnetic, geological, bacteriological, physiological and tidal research (Nordenskiöld 1904, 24:36–37). Important discoveries of fossils were made, proving the previous existence of milder weather and the presence of vegetal and animal life corresponding to other latitudes.

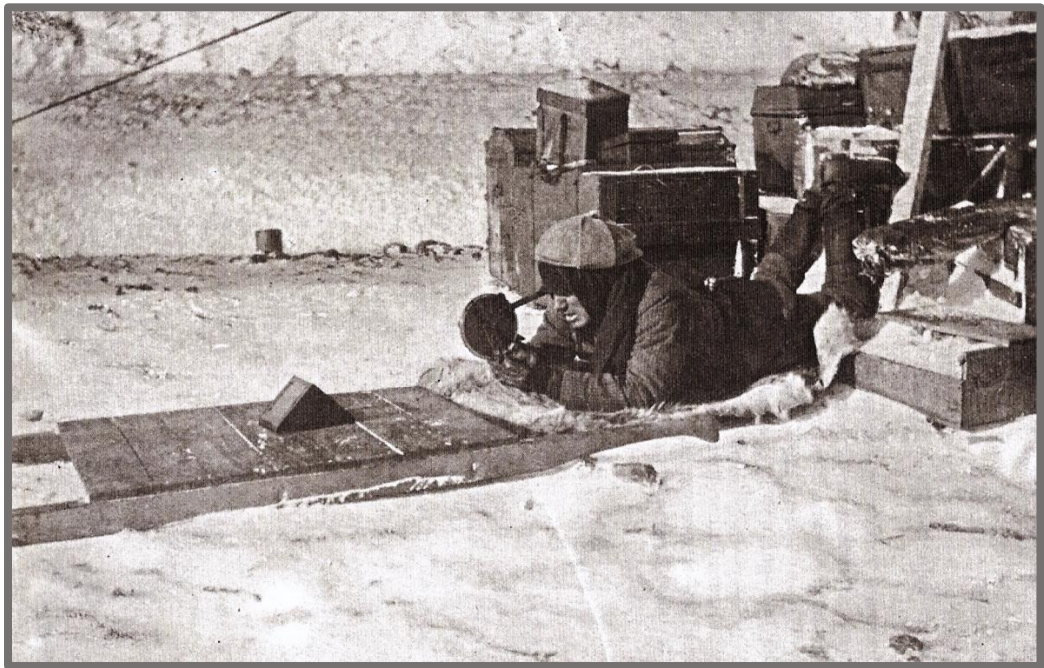
When the *Antarctic* went back the next summer in order to relieve the party, they encountered heavy ice for which they landed a small party of three that were supposed to meet the landing party at Snow Hill while Captain C. A. Larsen in the *Antarctic* searched for a way through the ice. However, the party of three encountered open water in their way, that impeded them from getting to the winter quarters. They retreated to their starting point and waited for the *Antarctic* to pick them up, but as winter approached, they picked up some provisions and erected a hut of stones in which they spent the following winter. For its part, the *Antarctic* got trapped by the ice and sunk, and Captain Larsen with the rest of the crew managed to get to an island where they also spent the winter in improvised huts. When summer approached the

⁷⁸ Nordenskjöld's expedition called at Staten Island to calibrate their instruments with those of the recently build Argentine magnetic and meteorological observatory, but the Argentine instruments weren't set up yet (Nordenskiöld 1904, 24:31).

⁷⁹ The expedition determined the continuity between the 'D'Urville' and 'Gerlache' channels and the lack of a west-east channel south of the Antarctic peninsula tip, known at that time as 'Louis Philippe Land'.

party of three and Larsen with some of the crew attempted to reach the camp at Snow Hill. In October 1903, the party of three met with a sledging party from the Land Station in the vicinity of the hut. The next month, the Argentine frigate *Uruguay*,⁸⁰ sent for their rescue by the government, arrived, bringing the disappointing news of the disappearance of the *Antarctic*. However, Larsen and his companions reached the spot just afterwards and thus the *Uruguay* headed east to collect the remaining survivors of the *Antarctic*. A few weeks later all were safe in Tierra del Fuego.

Picture 2: Lt. Sobral making observations during Nordenfjöld's Antarctic Expedition 1901-03



Source: Instituto Antártico Argentino. Argentina.

The delays suffered by the fitting of the *Scotia* made Bruce postpone its departure until November 1902, reaching the South Orkneys in February 1903. From there he directed east and tried to penetrate south through the Weddell Sea. Ice conditions proved impenetrable and Bruce decided not to let the ship be trapped in the ice, which would impede him from conducting important oceanographic work. Instead, he directed the *Scotia* to the South Orkneys where they established a land station for scientific observations on Laurie Island. The hut was made from a wood

⁸⁰ The *Uruguay* was the same frigate committed to the plan for the Argentine Antarctic expedition proposed by the IGA in 1896. Since the rescue of the Swedish expedition it had had a lengthy and notorious record of Antarctic operations.

structure covered by stones and was a much more permanent structure than any other in those latitudes (Day 2013, 120). However, the weather conditions determined the ice-trapping of the *Scotia* making it impossible for Bruce to conduct his planned oceanographic work. Confined to work within the island, Bruce and his party conducted an extensive survey of its features, until the spring let the ship sail again to Port Stanley for reparations and stores, leaving behind the meteorologist Robert Mossman and five other companions to operate the Laurie station.

Picture 3: The Omond House of Burce's Scottish National Antarctic Expedition



Source: Building a shed beside Omond House, Ca. 1903. Glasgow Digital Library. UK.

In Port Stanley, Bruce decided to sail to Buenos Aires, where he could get coal and stores at a lower price than that charged by the British Admiralty and cable Scotland to ask for more funds (Swinney 2007, 58). In Buenos Aires, Bruce concentrated his efforts on obtaining further funds for another attempt into the Antarctic regions. Although he was aware that public support depended on reaching higher latitudes, he was not willing to sacrifice his oceanographic research (Day 2013, 122). The lack of support from the British government was compensated by the sympathy shown by the Argentine government and the public, who treated them as celebrities. Eventually, he obtained further funds from James Coats and Argentine

companies, while the Argentine government provided him with some stores and dry-dock facilities for the repair and refitting of the *Scotia* (Swinney 2007, 59) and offered to take over the observatory in Laurie Island and convert it into a permanent meteorological station. The approach to the Argentine government was made through Francisco ‘Perito’ Moreno, director of the *Museo de la Plata*, to whom was acquainted, thanks to Moreno’s contacts with the British Association and Robert Hugh Mill (Swinney 2007, 59). Moreno secured the support of Walter Davis, director of the *Oficina Meteorológica Argentina* (Argentine Meteorological Service), and jointly presented the plan to the Argentine president, Julio A. Roca, who signed a decree on 2 January 1904 highlighting the practical and scientific importance of the observations made in the ‘*Isla Año Nuevo*’⁸¹ and in the ‘South of the Republic’.⁸²

Once everything was set, Bruce went to Laurie Island to restock the provisions, leave the three Argentine officials who would take charge of the station and relieve the companions of Mossman, who would remain at the station for another year with Smith (Swinney 2007, 60) as employees of the Argentine government. Bruce was worried about the political consequences of the transference and required authorization to claim the island in the name of the British Crown, which was refused (Swinney 2001, 295). As a symbolic act, he raised the Union Jack jointly with the Argentine flag at the transference ceremony and the *Scotia* departed south. However, after their departure, only the Argentine flag was left.

Penetrating the Weddell sea again, Bruce managed to get farther south, up to 74° S, and sight a land mass which he named ‘Coats Land’ in recognition of his main supporter. After mapping some 150 miles of the newly discovered land, Bruce decided to make their way back. However, the ship was surrounded by ice and their efforts proved in vain. Luckily for them, the next day the ice released the ship and they could return safely to Buenos Aires in February 1905.

⁸¹ It refers to the Observatory in the Staten Island group.

⁸² Decree N/N of 2nd January 1903, published in: “Boletín Oficial de La República Argentina” 1904, 14396.

The last expedition of this series was a French one. Although there were some voices in France asking to rescue the nation's tradition of south polar exploration (Gallois 1899, 8:464), it was only in late 1903 that Jean Baptiste Charcot, a son of a wealthy doctor, managed to set sail from Havre. With French interest directed to exploration in Africa, Asia and South America, Charcot regretted that his country neglected polar exploration (Charcot 1905, 26:498). Originally conceived of being directed to the North Pole (Keltie 1904, 25), the expedition confronted severe difficulties in gathering resources, being mainly financed by Charcot's own inherited wealth (Day 2013, 119) determined that the expedition had to conform with a modest scale and scientific programme. Charcot's focus was centred on obtaining reliable scientific results, more than 'wondering listlessly up and down the seas, exhausting our efforts in haphazard researches which might prove more satisfactory to our vanity, but would assuredly have been far less useful to science' (Charcot 1905, 26:498).

Directed to the north-west coast of the Antarctic Peninsula, the expedition was oriented to complement the work of Gerlache and Nordenskjöld's expeditions. The *Français*, a small ship constructed for the expedition in Saint Malo, proved to be seaworthy and strong, but the engines were defective due to the limited resources. Having rush its departure to assist the Norwegian expedition, which was believed to be in distress, the *Français* arrived in Buenos Aires by the middle of November 1903—once Nordenskjöld was already rescued by the Argentines—and was warmly received by the public. Charcot took the opportunity to meet Nordenskjöld and discuss his programme with him. He also was able to meet Bruce, who was making his arrangements to return to Antarctica. The Argentine government provided five dogs and coal that were picked up on New Year's Island⁸³ and Ushuaia, respectively (Charcot 1905, 26:500), before heading to Orange Bay, west of the Cape Horn, where they conducted some research.

At the end of January 1904, the *Français* set sail to Antarctica, reaching the South Shetland Islands on 1 February, from where they coasted the north-west side

⁸³ Today called *Isla Observatorio* (Observatory Island)

of the Antarctic Peninsula in a southward direction up to the Biscoe Islands at about 66° south latitude. On Wiencke Island they established a small hut and a magnetic and meteorological observatory, spending the winter undertaking scientific work and making short excursions (Balch 1911, 82–83). On Christmas Day they were able to sail again, being able to carry out some mapping of the region before heading south up to the vicinity of Adelaide Island, where they hit with a sunken rock forcing them to return immediately to Wiencke Island. There, they conducted temporary repairs that allowed them to sail back to Argentina and arrive, on 4 March 1905, to Puerto Madryn. In the meanwhile, the Argentine frigate *Uruguay* had been sent to relieve the party in the observatory of Laurie Island and made a pre-emptive search for the French expedition. The Argentines missed the French but as the date given by Charcot as the limit to be considered in distress had still not expired, they took the opportunity to chart the region before heading back to Buenos Aires (Capdevila and Comerci 1986, 65).

As result of the 6th and 7th IGCs, between 1897 and 1904, seven expeditions were sent to the Antarctic regions, all seven of a very different character. With the exception of Drygalski's German expedition, none of them had an official character, all being considered private initiatives. While the German and British NAE expeditions counted on substantial state support, all the others had only received limited resources and had to be funded by private donors. With geographical discovery and the reach of southern latitudes being an aim of all expeditions, only the British NAE seems to have valued that goal as equal or even superior to systematic and thoughtful scientific observations. The dominant role that Markham and the RGS played in defining its objectives and the naval character given to the enterprise could account for the limitation on the scientific results obtained by the expedition (Markham 1986, xv; xviii–xix).

The lack of governmental support in almost all expeditions—including the difficulties confronted by the RS/RGS in obtaining governmental aid—seems to have structured some characteristics that would be reproduced in the expeditions to come, particularly regarding the need of the publicity required to obtain private funding. At the same time, the scarcity in resources made Norway indirectly, and Argentina

directly, became involved in Antarctic activity; the first through the participation of its nationals, and the second through the support given to the Antarctic expeditions, their participation in scientific research and the long-standing operation of an Antarctic base through the observatory on Laurie Island.

That lack of governmental interest in the Antarctic regions—revealed by the official reluctance to fund Antarctic expeditions, the lack of interest in official acts of claims and the lack of official directives regarding the Antarctic work—suggest that there was little geopolitical interest in the region—if any—and that scientific/exploration goals were the main force behind Antarctic endeavour. It is true that national values were a *moto* mobilized to gather resources and support, but the sense of nationalism was inserted in a wider view of the role of the nation within the concert of the ‘civilized world’. In that sense, science presented itself as both a cosmopolitan value (of Western society) and a national asset, and competition seems to have been set up in terms of scientific and geographical knowledge versus a territorial run. Despite some sense of contention between the different expeditions, it is true that explorers have often collaborated with each other providing advice, information and assistance; have shared their general results; and have coordinated their works, even if to a limited extent. Additionally, they have been assisted in their efforts by southern countries, like Argentina, that were eager to participate in what was seen as a scientific crusade of the civilized world. Therefore, the expeditions that were launched to Antarctica between 1897 and 1904 were characterised by a sense of a common scientific enterprise.

However, the public success that the British NAE obtained on its return was due to its feats of exploration more than its scientific results (Lüdecke 2003, 46), and the permanence of official apathy regarding the south polar regions, seems to have shaped the years to come, particularly, the race to the South Pole. But the governmental abstention would not last, particularly as economic interest was about to develop in Antarctica as a result of the recent exploration of its boundaries.

2.4 Unleashing Economic Development: The Origins of Antarctic Whaling

The first series of scientific expeditions in Antarctica at the beginning of the 20th Century added a substantial amount of information to the existing knowledge about the region and geophysical phenomena. Nevertheless, there was still much to be investigated, the scientific harvest was not sufficient to raise interest in maintaining the exploration effort, and successive attempts to gather support were confronted with the same limitations as previously.

Nonetheless, those explorations had produced an indirect impact through the development of commercial interests in the region. Contradicting the prior wave of expeditions, Nordenskjöld's captain, C. A. Larsen, had witnessed the vast field of exploitation of whales that Antarctica offered. Where science confronted countless difficulties in gathering funds for exploration, commercial prospects swiftly found parties interested in opportunities of investment. While science could not provide immediate and evident returns for the risks and costs incurred, whaling activities offered potential returns that overweighed those factors. The southern regions were no more only a vast field for science, but also for economic development and, with it, political interests.

Additionally, the publicity gained through the deeds of explorations of the NAE expedition fuelled the expectations of fame and wealth of some individuals, who started to pursue Antarctic exploration as a platform for personal and national glory. While science continued to be the justification for official support and the endorsement of scientific organizations could provide the expeditioners with some credibility, it was the appeal to nationalist values and the prospects of gaining some individual notoriety that secured the private donations that made the expeditions possible.⁸⁴ Consequently, collaboration between expeditions continued, but national as well as personal rivalry settled the scene in more competing terms. Therefore,

⁸⁴ It was a common practice to name some new discovery with the name of the most important benefactors and supporters of the expeditions.

coordination and information sharing were undermined, and secrecy and competition followed suit.

Nordenskjöld's expedition was received in Buenos Aires in 1903 with great acclaim. At a dinner party thrown by a group of industrialists for Nordenskjöld and Larsen on 5 December 1903, Larsen commented on the numerous whales present south of the American continent, which roused the interest of some of those present, including the Norwegian Don Pedro Christophersen and the banker Ernesto Tornquist (Fontana 2014, 39; Hart 2001, 29). Larsen already had tried to gather investors by publishing a pamphlet detailing the prospects for the intended whaling industry, and the meeting served to make acquaintance with those that would end up backing up his project.

As part of Nordenskjöld's expedition, Larsen had harboured with the *Antarctic* in June 1902 on a bay in South Georgia, christened Grytviken. There, they conducted extensive observations that allowed Larsen to conclude that the place offered a suitable station for whaling, with abundant numbers of the sea mammal in the nearby area (Hart 2001, 24–25). With that information at hand and an extensive experience in whaling, Larsen travelled to Norway trying to get investors from his home country but gathered no support for his venture, so he accepted the Argentine offer and the *Compañía Argentina de Pesca S. A.* was formed in February 1904, with Tornquist and his associates as the main stakeholders, establishing its headquarters in Buenos Aires.

The first ships and employees of the company arrived at Grytviken on 16 November 1904, starting immediately with the establishment of the complex. The long days allowed them to work for extended hours and advance at great speed. The whaling activities met with almost immediate success, at least during the summer season, having to be content during winter with much less profitable results. However, when the spring season was approaching, a party of a recently formed company based in Punta Arenas, Chile, the *South Georgia Exploration Company Ltd.*, arrived holding a lease from the British government in the Falkland Islands (Malvinas) for the whole island, including a license for sealing (Hart 2001, 65–66). Despite being based in Punta Arenas, the company was formed by British subjects from the Falkland

Islands (Malvinas) and the situation motivated a protest from the director, Erenst Swinhoe.

The conflict between Larsen and Swinhoe's companies led to negotiations between the Argentine company and the British government in the Falkland Islands (Malvinas), creating a critical dilemma for the British. In their view, Larsen and the Argentine government acted in scorn of the British title to the islands, and they wanted the issue to be settled in a way that could reassure their rights. But at the same time, they seem to have been careful of not provoking the Argentines, so the issue was not dealt within official channels, but merely in negotiations with the company. A proposal made by the British to the company was to pay a leasing fee and a percentage of earnings,⁸⁵ but as the latter would mean having to modify the company's statutes, which would require the approval of the Argentine government, the Company argued that that could lead to losing the benefit of tax exemption enjoyed when being considered a national product or from *res-nullius* origin.⁸⁶ The company replied that a higher annual fee could be paid if the percentage clause could be withdrawn, and the proposal was accepted.

However, there was also the issue of the forthcoming establishment of a meteorological station on the island by the Argentine government. The plan was part of a wider programme of research that included, besides the installation in South Georgia, another meteorological station in the South Orkneys on the recently transferred base of Laurie Island; and Booth (Wandell) Island, west of the Antarctic Peninsula. The installation of the three observatories would provide important meteorological information—besides magnetic and other—that Argentina expected would improve navigation in the region. At the time, the British Foreign Office declared that they were not aware of any ownership of these latter two islands, so they didn't object to the installation of any meteorological stations there. Regarding South

⁸⁵ Originally fixed in £200 a year. See: (Hart 2001, chap. 4). The original proposal can be found in: Hartford [British Consulate in B.A.] to Mr. Schlieper [Compañía Argentina de Pesca], 11 December 1905 [File number 31]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

⁸⁶ See: Enclosure No. 2 in Mr. Harford's No. 89 of December 30, 1905, 29 Jan 1906. [File Number 86-88]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

Georgia, they recommended not initiating any discussion at governmental level, as the negotiations with the company were taking a 'satisfactory course' and limited themselves to offering facilities in exchange for meteorological information in case the issue arose.⁸⁷

The Argentines had bought *Le Français* from Charcot after his return and christened it *Austral*, in the belief that it would constitute a ship more suited for the southern regions. However, the vessel proved a poor choice. The *Austral* was assigned to the relief operation of Laurie Island and to the establishment of the already mentioned meteorological and magnetic observatory on Booth (Wandell) Island, but meteorological conditions and the limitations of the ship impeded the latter. Eventually, the Argentine government established the new observatory on Laurie Island and South Georgia, assigning authorities to the South Orkneys and Booth (Wandell) and adjacent islands on December 1906 (Capdevila and Comerci 1986, 66), even though the establishment of the latter proved unfeasible. In December 1907, after returning to Buenos Aires and being refitted, the *Austral* was struck by a storm on its way out of the *Rio de la Plata*, it hit a bank and sunk (Capdevila and Comerci 1986, 66). The *Uruguay* had to be assigned again to the relief of the Laurie Island base and would continue to do so for many years.

While negotiations were taking place, the British government made what could be considered the first military act in Antarctica, sending the warship *HMS Sappho* to the islands, arriving at the end of January 1906; that undoubtedly exerted a great pressure on the acceptance of the agreement.⁸⁸ At the end of February, the agreement between the company led by Larsen and Allardyce, the British governor in the Falkland Islands (Malvinas), was signed. The solution reached was imperfect but, in a way, satisfactory. It avoided a political escalation between Argentina and Great Britain

⁸⁷ See: Gorst [for the Secretary of State] to Hartford [British Consulate in B.A.], 31 March 1906 [File Number 73-74]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

⁸⁸ Hart (2001, 76–82) argues that there is no evidence that Captain Hodges, in charge of the *HMS Sappho*, had behaved in any menacing way. However, he also presents an account of Larsen's daughter that reveals the sense of force they felt with the presence of a 'man o' war' and the 'theatrical' naval deployment. It is hardly arguable that such a presence would not have implied a great deal of imposition to Larsen and its party.

as there were no formal protest nor diplomatic action regarding the question. Argentina's President Quintana died in early March 1906, which seems to have produced some governmental paralysis and impeded a more assertive reaction (Fontana 2014, 41). For the British, the agreement implied a recognition from part of Argentina of British ownership of the island, even when there was no basis for such understanding.⁸⁹ For its part, the company reached a satisfactory economic arrangement and, avoiding a political clash, maintained its tax burden in a low level.

Nevertheless, the settlement of the Argentine company offered new prospects for Allardyce, who saw on the Antarctic and sub-Antarctic islands and the adjacent seas an opportunity for colonial development. On 23 February 1906, the Norwegian *Chargé D'Affaires* in London enquired about the British claims of ownership of islands and 'countries' between 40° and 65° south latitude and 35° to 80° west longitude.⁹⁰ The consultation also questioned the international character of the South Shetland and South Orkney Islands and the possibility of a Norwegian company obtaining a British permit to land in the 'Falkland Islands' (Malvinas) and South Georgia to carry out whale fishing. The expedition was to be carried out with a floating boiling and manufacturing establishment, instead the usual land-based establishment. A few days later, on the 26th, Allardyce wrote to the Earl of Elgin, Secretary of State for the Colonies:

Now that Our Sovereignty over South Georgia has been placed on a satisfactory basis, and the lease of a portion of the land around

⁸⁹ This consideration was based on a series of contradictory arguments. First, it was argued that as a high-ranking official of the government was part of the company and participated in the negotiations, the agreement could be interpreted as having governmental approval. Second, it was argued that there was a law that prohibits sealing in the Argentine Patagonia, which means that by authorizing the company to undertake fishing activities, the government was acknowledging that the islands were not part of Argentina. Third, it was argued that the tax exemption was made as an exceptional and single-based concession. However, the participation of a governmental official in the company does not imply any kind of recognition by part of the government. The person in question participated in the negotiations as a representative of the company and not of the government. It is possible that the political weight of Tornquist, the main actionist of the company, exerted an important influence in avoiding a governmental reaction to the British attitude. At the same time, the law prohibiting sealing was directed towards the Argentine Patagonia, not Antarctica, and included the exemption of 'concessions given by the government'. Lastly, the exceptional character of the tax exemption did not preclude the consideration of the product as being of national or *res-nullis* origin.

⁹⁰ See: J. Irgens [Norwegian Consulate in London] to Sir E. Grey [UK Foreign Secretary], 23 February 1906 [File number 266-267]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

Grytviken Harbour has been granted to the Argentine Fishery Company of Buenos Aires, the time has I think arrived when the question of the establishment of British Sovereignty over the Groups of Islands known as the South Shetlands and the South Orkneys situated in latitude 61 to 63 south, and longitude 61 to 43 west, might well be considered.⁹¹

Allardyce considered those islands as ‘no man’s land’ and suggested moving before ‘the adjacent South American Republics move, as they are pretty certain to do, in the same direction’. Highlighting the favourable circumstances for whaling and sealing, he noted that ‘the prospects for the future development of this Colony [Falkland Island] are far from encouraging, the whole of the land having been already taken up for sheep farming’.⁹² Therefore, the suggestion was to incorporate the South Shetland and South Orkney archipelagos within the Dependencies of the Falkland Islands, which would not only expand their trade but also allow them to regulate those fisheries. In his answer, Elgin informed about the absence of any regulations regarding fishing on territorial waters of the colonies with the exception of sealing; and recommended that an ordinance be passed in order to reserve whaling in territorial waters to those holding a license from the government.⁹³

Economic interest had moved the position of the British government towards the South Orkneys and the Antarctic. Being reluctant to offer any support to Bruce in 1903 and having informed, just a few weeks previously, that they registered no information about the islands’ ownership; Allardyce’s request seems to have aroused interest in the Colonial Office who instructed Mr. Hartford, British delegate in Buenos Aires, to communicate to the government that the South Orkneys were British territory and that the establishment of the station was without the knowledge

⁹¹ Allardyce [Governor of Falkland Islands] to Earl of Elgin [Secretary of State for the Colonies], 26 February 1906 [File number 275-277]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

⁹² Allardyce to Elgin, *op cit.*

⁹³ Elgin [Secretary of State for the Colonies] to Allardyce [Governor of the Falkland Islands], 31 March 1906 [File number 278]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

In order to avoid a conflict with the Argentine Fishery Company and the South Georgia Exploration Company he instructed the issuing of licenses to those companies free of charge.

of the British government.⁹⁴ However, Hartford informed that the transference of the station was made by official invitation of the British legation in Buenos Aires, and considered that it was not necessary to engage in a conflict with the Argentine government in order to answer the Norwegian enquiry and that it would be prudent to avoid any publicity.⁹⁵ After much consultation within the British government, it was decided that the Argentine activities did not diminish British rights in the Orkneys and that the failure to install the observatory on Booth (Wandell) Island made it unnecessary to take any step regarding 'Graham Land'.⁹⁶ Accordingly, they decided to inform, in May 1906, the Norwegian government that South Shetland, South Orkney and Graham Land (Antarctic Peninsula) were dependencies of the Falkland Islands (Malvinas) and thus any activity would require the approval of the governor of such colony. However, publicity was to be avoided and the suggestion by Allardyce of hoisting the British flag on South Orkney and South Shetland was considered as holding no benefit for the British title to those territories.⁹⁷ Additionally, it was instructed that the conditions imposed on foreigners not be excessively onerous, as it was 'more important to establish the British title to them and to preserve the right of British subjects to resort to them than to treat them as a source of revenue'.⁹⁸

Despite the efforts made by Larsen to maintain the secrecy of their success, competition in southern whaling was developing fast. As instructed, the British government in the Falkland Islands (Malvinas) passed an Ordinance on 5 October

⁹⁴ Bertramlot [for the UK Secretary of State for the Colonies] to Grey [UK Foreign Secretary], 2 April 1906 [File number 420-421] and Gorst [for the Secretary of State] to Hartford [UK Delegate in Buenos Aires], 11 April 1906 [File number 425-426]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

⁹⁵ Hartford [British Legation in Buenos Aires] to [Unknown], 14th May 1906 [File number 283] and Hartford [British Legation in Buenos Aires] to Grey [UK Foreign Secretary], 14th May 1906 [File number 453-456]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

⁹⁶ Hartford to Grey, 14th May 1906, *op. cit.*

⁹⁷ Unknown [Allegedly the Earl of Elgin] to Allardyce [Governor of the Falkland Islands], June 1906 [File number 447-451]. Argentine Files 279-11449 (1906): FO371/4. TNA/UK.

⁹⁸ Unknown to Allardyce, June 1906, *op. cit.*

1906 which prohibited conducting any whaling operation without a lease or license.⁹⁹ By that time, fresh competition from Norway had arrived in South Georgia and it would continue to do so in the following years. But the Norwegians were not the only ones interested in the southern whales.

In February 1906, the Chilean government emitted decree n° 260 making a concession to explore resources in islands south of the American continent, that motivated a protest note from the Argentine government in June (Bugueño and Mancilla 2005, 10). In November 1906, the *Sociedad Ballenera de Magallanes* (Magellan's Whaling Society) was founded and requested from the Territorial Government of Magallanes a permit to establish a temporary base on Elephant Island of the South Shetlands, which was conceded in December.¹⁰⁰ In April 1907, the British governor in the Falkland Islands (Malvinas) informed the company that, as the South Shetlands were British possessions, they were required to obtain a license from the Falkland Islands government, to which the company answered that they already held a license from the Chilean government. Consultations were made by the company to the Chilean government who started to study the question. The Chilean government formed a committee which recognized the basis for an Argentine claim to Laurie Island but recommended looking at an agreement between the two countries in order to advance on securing the sovereignty of the region and defining a common boundary. As considered in a special report made for the Chilean government, the main anxiety was the possibility of British interest expanding in the region¹⁰¹ and even considered the possibility of including the United States¹⁰² in defining a common continental position. The concept of 'American Antarctica' was born. Negotiations

⁹⁹ Originally, the ordinance provided that a fee must be paid for each whale caught depending on the species, but it had to be replaced a few years later due to the impracticality of such a measure.

¹⁰⁰ Informe Presentado al Ministerio de Relaciones Exteriores sobre la Situación Internacional de la 'Antártida Americana' y los Derechos que a Ella Podría Chile Hacer Valer, by Alejandro Álvarez, 12th February 1908. Folder: Chile. Misiones de Chile en América y Europa, 1911: Vol. 427A. AGH-MRE/CHL.

¹⁰¹ The report interpreted the forced taking of possession of the Malvinas Islands (Falklands) against the Argentines as an example of what could happen on the southern territories of America.

¹⁰² This favourable attitude regarding the inclusion of the United States in a common position seems to have become established as a common feature of Chilean Antarctic politics in the future.

took place between 1907 and 1908, before domestic political circumstances prevented an agreement being reached.¹⁰³

In order to furnish a more formal facet to recently defined policy, on 21 July 1908, the British government promulgated Letters Patent ‘appointing the Governor of the Colony of the Falkland Islands to be Governor of South Georgia, the South Orkneys, the South Shetlands, the Sandwich Islands, and Graham's Land, and providing for the Government thereof as Dependencies of the Colony’. The Letters Patent defined the British dominion as comprising ‘the territory known as Graham's Land, situated in the South Atlantic Ocean to the south of the 50th parallel of south latitude, and lying between the 20th and the 80th degrees of west longitude’ (See *Figure 5*). This constituted the first official territorial claim to the Antarctic continent. The definition was vague, leaving open the possibility for multiple interpretations¹⁰⁴ and it inaugurated the definition of territorial rights over ‘sectors’ that follow geographical parallels—that became the commonly used pie-slice shapes of the region.

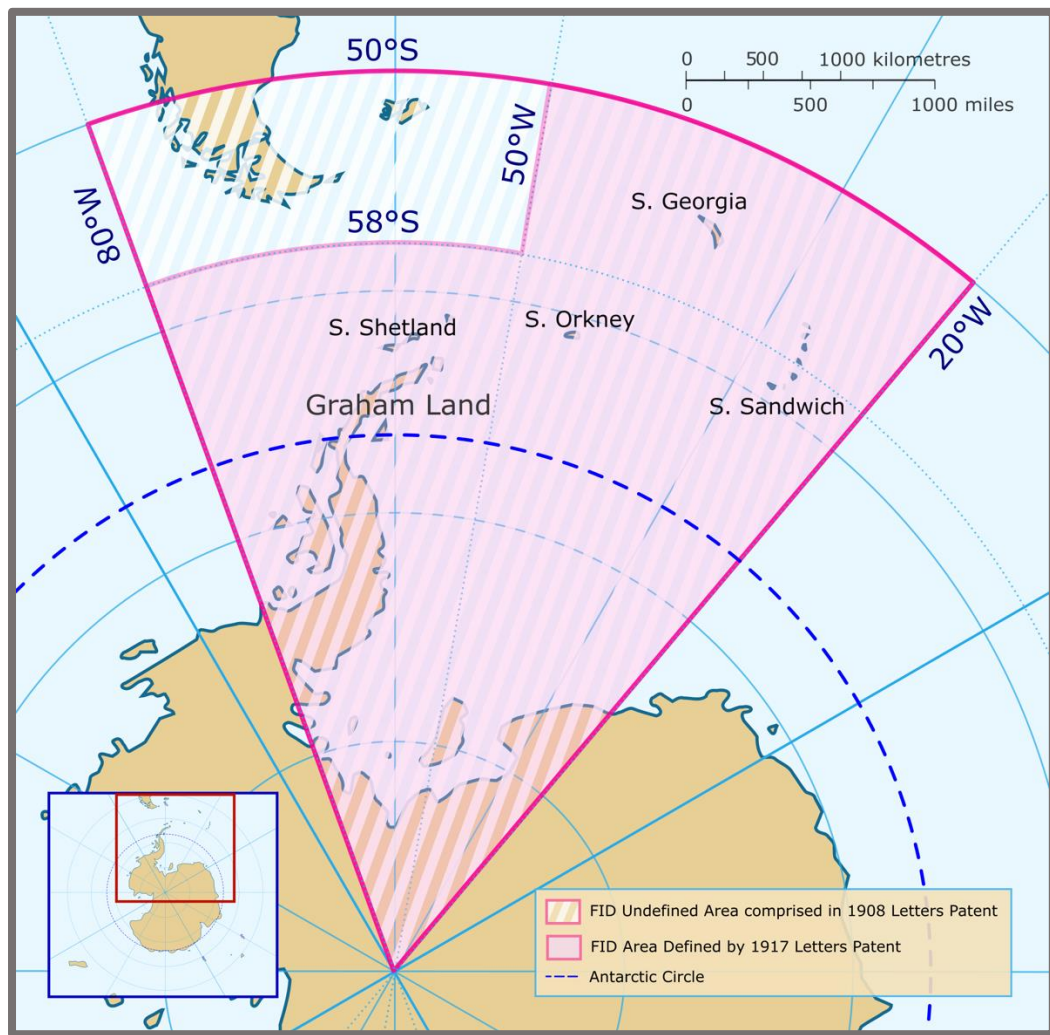
One by one, the companies started to accept the dominant situation and requested the Falkland Islands government's whaling license in order to use stations on what they called their dependencies, that included the South Orkney Islands. From the British viewpoint, the continuous operation of the Laurie Island observatory by the Argentines didn't diminished their rights as the Argentine scientific undertakings there were carried out by the ‘invitation’ of the United Kingdom, and no protest had been motivated as a result of the 1908 Letter Patents. However, in the Argentines' understanding, each season was a reinforcement of their effective occupation not only of the island, but also of the Antarctic region. Eventually, the British understood that the situation on Laurie Island had weakened their potential claim to the South Orkneys and in 1911, the British ambassador in Buenos Aires approached the Argentine government in view of exchanging the South Orkneys for some parcel of

¹⁰³ The Argentine president asked for the resignation of Zeballos, Foreign Affairs Minister, who was in charge of the negotiations. (Bugueño and Mancilla 2005, 10–11)

¹⁰⁴ In fact, it generated concerns regarding the pretension to rights over the high seas and the territories of American Patagonia, that motivated its amendment through the Letters Patent of 28th of March 1917 (See *Figure 5*).

land in Buenos Aires for the British legation. One of the main reservations of the British was that British subjects be granted with the same prerogatives for whaling and sealing in the islands and that prior holders of licenses be given priority when new licenses were issued. Negotiations continued until 1914, when a change in the Argentine government determined that the question be dropped.¹⁰⁵ Argentina had lost a unique opportunity.

Figure 6: Sketch Map of the British Claim to the Falkland Islands Dependencies (Area defined by the 1908 and 1917 Letters Patent)



Source: Elaborated by the author.

¹⁰⁵ Lowes to Bart, 20 March 2014. No. 46. Falklands 1914, Public and Misc. Offices: CO78/132. TNA/UK.

There are several other documents in that file about the cession of South Orkneys as well as in CO78/128 and CO78/129.

As a result of enquiries regarding the issue of licenses on the territories south of Oceania, in December 1911, the British ambassador in Paris enquired of the French Government whether they held a claim to ‘Wilkes Land’, defined as comprising the region between 52 and 160° of east longitude.¹⁰⁶ In April 1912, the French government responded stating that France took possession of those lands in 1840 and that it had no intention of renouncing to its rights, but didn’t define the exact extension of the claimed lands. In 1913 and 1915 new communications from the British government questioned the French about the extension of their claimed area, but no reply was registered.

The expansion of whaling not only had brought to light the issue of ownership of Antarctic lands, but also introduced the question of the sustainability of the exploitation of oceanic living resources. By 1910 conversations between J. A. Mörch, a Norwegian chemical engineer, and Dr. Sidney Harmer, keeper of zoology at the British Museum,¹⁰⁷ advanced on the idea of requesting observations and records from whalers holding British licenses in order to study the situation of the resource under scientific grounds (Savours 2013, 203). In 1910, a few reports on whaling were elaborated by the British Museum from information provided by the Colonial Office but they were preliminary.

But not only in Britain were there concerns about the whales. In June 1911, Otto Nordenskjöld presented a plan for a permanent research station in South Georgia, making a nationalist appeal to locate Sweden once again in the top ranks of scientific exploration of the polar regions (Roberts 2011, 17). He was confident in obtaining some support from the company managed by his former captain, Larsen. Being oblivious to the fact that Larsen’s company was Argentine, he was convinced that, being Norwegian, no funding could come from whaling companies there.¹⁰⁸ In February 1912, Nordenskjöld wrote to Keltie, by then Secretary of the RGS, presenting his plan and asking the support of the society, considering the importance

¹⁰⁶ See the correspondence present on: Antarctic Lands: CO537/1080. TNA/UK.

¹⁰⁷ Later on, British Natural History Museum.

¹⁰⁸ Nordenskjöld to Keltie, 26 February 1912 (Göteborg). Anglo Swedish Antarctic Expedition: RGS/CB8/5. RGS-A/UK.

of the work proposed. The idea was to fund a Swedish whaling company that could support the scientific exploration of the region on a continuous basis, for which he had asked for a whaling license from the British governor on the Falkland Islands (Malvinas).

Picture 4: Whalers at South Georgia



Source: Innes-Wilson, J., Ca. 1918. CO 1069/313. TNA/UK)

Nordenskjöld was conscious that obtaining a whaling license would be difficult, but was hopeful that ‘the support of some leading British Geographers and polar men...’¹⁰⁹ would pave the way to getting the approval of the Colonial Office, where Nordenskjöld and Anderssen, his partner in the project, would try to meet some officials. Keltie believed that the Antarctic explorer’s proposal had merit and that it should not be very difficult to get the support of the government, even though the moment was not the most propitious. Keltie made several recommendations

¹⁰⁹ Nordenskjöld to Keltie, 26 February 1912; *op. cit.*

about a better way to approach the government, including his advice of first approaching the Foreign Office, instead of the Colonial Office.¹¹⁰

In the application directed to the Colonial Office submitted for consideration of the Council of the RGS,¹¹¹ Nordenskjöld and Anderssen recalled their expedition of 1901-1903 and highlighted that it was thanks to that expedition and the observations undertaken then, that Antarctic whaling had developed. Their proposal included establishing a Swedish whaling company at South Georgia and South Shetland that would not only provide facilities and assistance to the scientists, but also set aside a portion of the expected profits on whaling operations to establish a fund under the control of some scientific society (actually he refers to 'some geographical corporation'). Thus conceived, the project combined commercial and scientific interests and required the government to grant a whaling license.

The memorial presented by Nordenskjöld and Anderssen was supported by Keltie and the RGS Council. In a letter to the Colonial Office, Keltie regarded the project as relevant from the scientific and practical points of view and considered that 'Now that the South Pole has been attained it is desirable that scientific research should be encouraged for the exploration of this huge continent about which we know so little...'¹¹² Both proponents were considered competent polar explorers and scientists, and the Colonial Office showed some interest in the possibility of establishing a permanent station.

However, in July 1912, a proposal had been advanced in the UK government to introduce measures for the protection of whales, raising the idea of calling an international agreement for that purpose. The Board of Trade assessment concluded that they did not expect serious opposition from British firms involved in the whaling industry to such measures and the decision was made that no further licenses be

¹¹⁰ Keltie to Nordenskjöld, 28 February 1912. Folder 41: Scott Keltie. Anglo Swedish Antarctic Expedition: RGS/CB8/5. RGS-A/UK.

¹¹¹ Nordenskjöld to Keltie, 4 March 1912. Enclosed Application to the Colonial Office. Folder 41: Scott Keltie. Anglo Swedish Antarctic Expedition: RGS/CB8/5. RGS-A/UK.

¹¹² Keltie to the Secretary of the C.O., 12 March 1912. Folder 41: Scott Keltie. Anglo Swedish Antarctic Expedition: RGS/CB8/5. RGS-A/UK.

issued.¹¹³ The possibility of an international agreement was convenient but hardly sufficient for securing the protection of the resource, and acquiescence from the Norwegians and South Americans was seen as fundamental for having any practical effect. Still, sound information relating to the whales and their medium was wanting.

Nevertheless, the grant of a whaling license was out of the question. Instead, Nordenskjöld and Anderssen were granted authorization for the installation of a scientific station and offered assistance in approaching the existing whaling company for their support, and the British government in the Falkland Islands (Malvinas) for a small grant.¹¹⁴ However, the government proposal didn't offer the possibility for continuous operation and negotiations were initiated to search for alternatives. Several schemes were studied, including collaboration with the British Museum, who was already involved in the study of the marine biology of the southern oceans. With the Colonial Office considering its own research programme, Harmer stepped back, considering that a national research project would be ideal (Roberts 2011, 20). The Swedish insisted on a scheme in which they would finance the installation of the base while the British would cover the costs of operation for five years, after which it would be transferred to the UK.¹¹⁵ The Colonial Office remained sympathetic with the project, but the Foreign Office rejected the idea.

Governor Allardyce was hostile to spending money on scientific investigations, and the Colonial Office opted for a single-man option which was coherent with their policy of self-funding colonies (Roberts 2011, 21). In October 1913, the Irish zoologist Major G. E. Barret-Hamilton was sent to South Georgia to study the whaling and sealing activities as well as the general fauna of the region, but his study was interrupted by his sudden death in early 1914. After Barret-Hamilton's departure, an Interdepartmental Whaling Committee was formed by the British

¹¹³ Protection of Whales [File 40565]. Colonial Office Archives with the Falkland Island Dependencies (1912): CO78/125. TNA/UK.

¹¹⁴ Nordenskjöld to Keltie, 16 March 1912 and Read to Keltie, 18 March 1912. Folder 41: Scott Keltie. Anglo Swedish Antarctic Expedition: RGS/CB8/5. RGS-A/UK.

¹¹⁵ For the conditions of the agreement between Nordenskjöld and the British Museum, see: Biological Station in Graham Land, 18 July 1914. File 26143. Falklands 1914, Public and Misc. Offices: CO78/132. TNA/UK.

government in order to study the possibility of regulating the whaling industry and to enter into negotiations for an international convention on whaling. The idea was to avoid the exhaustion of the resources that had occurred in the northern hemisphere and scientific knowledge was essential to that end. The outbreak of the war in 1914 led to the Anglo-Swedish project being deferred and then cancelled, in 1917.¹¹⁶ Science and the whales' conservation would have to wait.

2.5 Exploration over Science: The Heroic Age and the Race to the Pole.

Since his return from the British NAE expedition, Ernest Shackleton was entertaining the possibility of returning to Antarctica in an expedition led by him. His health condition was delicate due to his participation on the expedition, but the Antarctic had left him with an inexplicable desire to go back.¹¹⁷ Even when he conceived the expedition as a continuance of the *Discovery* expedition and its scientific and geographical work, he was very much explicitly focused on pursuing the south magnetic and geographical pole (Shackleton 1909, 4). As with other initiatives of the sort, the main difficulty confronted by Shackleton was obtaining the necessary funds. However, some promises of support allowed him to announce, in February 1907, a new British expedition to Antarctica under his command. Without any financial support from the government or the RGS, Shackleton managed to secure a £20,000 loan in order to commence the organizational work, but funds were still short and so they would remain even after their departure.

Shackleton's plans included landing on the spot of the *Discovery*, but Scott, who had resumed his naval career, had not abandoned the prospects of polar exploration and considered the place his own (Day 2013, 132). Appealing to Shackleton's sense of chivalry, Scott got Shackleton to abandon the idea of using the old refuge of the

¹¹⁶ See: Folder 42: Anglo Swedish Antarctic Station – 1914 Correspondence. Scott Keltie. Anglo Swedish Antarctic Expedition: RGS/CB8/5. RGS-A/UK.

¹¹⁷ According to his own published testimony: 'the stark polar lands grip the hearts of the men who have lived on them in a manner that can hardly be understood by the people who have never got outside the pale of civilisation'. (Shackleton 1909, 1)

expedition, although he did not give up the exploration of the area outside the immediate vicinity of it. Apart from the region and the route, Shackleton conceived his expedition in a very different way to that in which he participated with Scott. Having all the financial responsibility, he did not form any committee and, instead of the big operation including a wintering ship and relief operations, he followed the plan of wintering a party, retreating the ship and relieving the party in the next season.¹¹⁸ Shackleton based his plans on the experience gained from the recent expeditions of the *Discovery*, *Terra Nova*, *Morning* and the *Uruguay* rescue of Nordenskjöld (Shackleton 1909, 5). In addition to choosing Siberian ponies instead of dogs for hauling the sledges on their travel south, Shackleton incorporated an automobile with the hope that the hard surface of the ice barrier would be suitable for that modern transportation vehicle.¹¹⁹

The expedition paid little attention to science, with a programme mostly limited to extending some of the observations of the British NAE expedition, taking with it on its departure from England only two scientists (Day 2013, 132–133). The rest of the scientific party was recruited in Australia as a way to secure the government's aid. It is interesting to note that, despite the fact that the economic prospects of the expedition relied on reaching the pole, Shackleton recognized that a scientific utility must be assigned to the expedition in order to instil it with legitimacy, and gain at least the symbolic support of the scientific societies.

The financial restraints made Shackleton have to be content with an old sealer, the *Nimrod*, which imposed severe limitations on the expedition, including the coal loading capacity. After the stop in Australia, where Shackleton convinced the authorities to grant him much needed financial assistance, and recruiting Dr. T. W. Edgeworth David as geologist and Douglas Mawson as physicist, the *Nimrod* went to New Zealand where it obtained further contributions. Additionally, Shackleton was made postmaster of 'King Edward VII Land' by the New Zealand governor and

¹¹⁸ It was similar to Gregory's original plan that motivated the clash with Scott and between the RS and RGS described previously.

¹¹⁹ It is possible that Shackleton had considered the use of the automobile as a way to favour publicity on his enterprise.

provided with postage stamps, which was seen as a symbolic act that could offer the expedition with additional income and at the same time provide an antecedent for the exercise of authority in a region with inchoate territorial rights. On the first day of 1908, the *Nimrod* finally set sail to Antarctica.

Picture 5: Shackleton's Nimrod unloading in Antarctica



Source: Davis, John King. Ship Unloading at Dock, 1907. State Library Victoria. Australia.

By that time, in France, Jean Charcot was gathering supporters for his second Antarctic expedition. Having entertained the idea even before the end of his first voyage, Shackleton's announcement prevented him from direct his efforts to that region and he decided to insist on the previously worked area in order to 'verify, complete and expand' the research undertaken with *Le Français* (Charcot 1911, 4–6). That decision implied the resignation of any attempt to the South Pole, but Charcot's objectives were more oriented to obtaining scientific results. The success of the first expedition granted him with recognition from the academic community and the

general public, and when he presented his plans to the French Academy of Science, they appointed a committee that decided to give its patronage to the project and elaborated a detailed scientific programme for the expedition. The French National Natural History Museum and the Oceanographical Institute also became patrons of the project. With such backing, the government showed more proclivity to financing the expedition and after some senior officials supported the initiative, he obtained 600,000 francs.

With funds secured, Charcot started preparations for launching the expedition. For that, he resorted to the advice and assistance of other polar experts and explorers, acknowledging the good relations and courtesy that had always existed between them (Charcot 1911, 8). He intended to buy *Le Français* back from the Argentine government, but the sinking of the ship precluded any advancement on the conversations. After studying other possible ships, Charcot finally decided to build another French polar vessel, which was named *Pourquoi-pas?*

The governmental funding did not mean that he enjoyed unlimited resources, and Charcot managed to gather support from many quarters in France and abroad to fit the ship and equip the expedition. He showed gratitude to the South American governments who, on his way south, not only welcomed them but also provided them with generous aid in kind (Charcot 1911, 7–8; 19; 25–27). As with Australia and New Zealand with Shackleton, the southern powers of America, particularly Argentina and Chile, seemed more than willing to collaborate on any enterprise that would be directed to what they'd started to consider as their vicinity. In the middle of December 1908, the *Pourquoi-pas?* weighted anchor from Punta Arenas, Chile and finally turned its bow to Antarctica.

Each expedition was successful in its objectives. Despite Shackleton not reaching the south geographical pole, he and three companions managed to get as close as about 112 miles from it, while another party of three reached the south magnetic pole. At the 'furthest south' reached, Shackleton and his companions planted the Union Jack and performed a claiming ceremony in the name of the British crown, naming the surrounding area as 'King Edward VII Plateau' and leaving a brass cylinder with some documents; while the other party did alike on the spot they'd

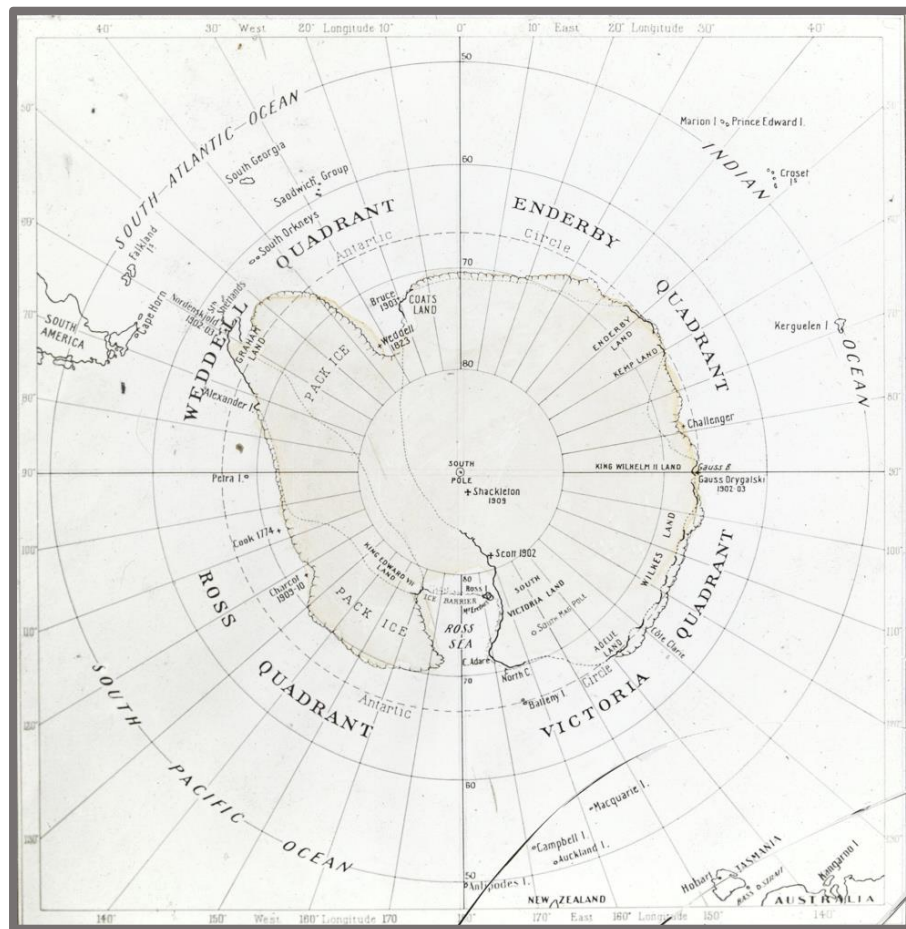
identified as the magnetic pole. Those achievements led to Shackleton being regarded as a national hero. On his return in 1909, the British government granted him £20,000 that would allow him to fulfil his remaining financial obligations, while the publishing of an account of the voyage¹²⁰ and lecture tours generated additional profits.

Charcot went from the South Shetlands in a south-west direction, charting more than 1,250 miles of the Antarctic coastline of west Antarctica and retrieving an impressive amount of scientific data. Without the fuss of any exploration deeds, Charcot accomplished a lot in the way of science and charted new territory that increased the knowledge about the Antarctic regions (Balch 1911). In comparison with Shackleton's *Nimrod* expedition, it was not focused on publicity but on the advancement of knowledge. However, the South Pole had captured the public imagination and, with it, the possibilities of financing. The 'race' to the pole had begun and science would have to fall behind, even though it would still play a relevant role.

In 1909, not only had Shackleton returned from his attempt to reach the South Pole, but the Americans Frederic Cook and Robert Perry came back from the Arctic with claims to have reached the North Pole. Cook's account was under suspicion from the very beginning, but eventually so was Perry's claim. Despite being unsolved, that made the South Pole be seen as the only remaining geographical spot to be conquered. In that regard, the achievements of Shackleton had left those who succeeded him a relatively small objective to accomplish. The completion of the barely more than 100 miles of land that separated Shackleton's 'furthest south' with the south geographical pole hardly justified the spending of resources and the risk of life associated with it, even when the public imagination was thrilled by it. Furthermore, the voluminous scientific results produced from Drygalski and Charcot's expeditions established a scientific standard that could not be ignored for any expedition that wanted to be praised as a scientific one (Day 2013, 143). Therefore, the much-needed governmental funding had to be justified by more legitimate reasons, and science still had a role to play.

¹²⁰ Shackleton. 1909. *The Heart of the Antarctic*. Vols. I & II.

Picture 6: Map of Antarctica with registered explorations until 1910



Source: Davis, John King. *Antarctic Chart*, Ca. 1911. State Library Victoria. Australia.

While Shackleton was in Antarctica, others were planning their expeditions to the South Pole. Filchner in Germany, Bruce and Scott in Britain, Shirase in Japan and Amundsen in Norway were all willing to attempt the last coveted geographical goal.¹²¹ The first four had made their goal public, but Amundsen maintained his plans in secrecy once he had raised the money to attempt the North Pole—something that had become pointless after the announcement of Cook and Peary—and believed that any publicity of the change of plans could jeopardize the whole enterprise (Amundsen 1928, 78–79). Conscious that Scott was attempting the South Pole and was well advanced in his plans, Amundsen hurried to adapt his own in order to beat Scott's departure. The alleged aim of the North Pole facilitated that suspicions were dammed,

¹²¹ The American explorer Robert Peary also announced, after his return from the Arctic, that he would attempt the South Pole, but his plans did not eventuate.

but the secrecy complicated some of the preparations and acquisition of equipment that wouldn't be justified for the Arctic, especially when most of the crew was not aware of their main destination—and they were not until they'd called in Madeira.

Nevertheless, Amundsen was able to assemble the expedition in a short time. It was conceived by Amundsen as a light expedition aimed at reaching the pole, and he used all his polar experience, including his participation on Gerlache's Antarctic expedition and in the Arctic, to choose the gear and develop his plans of operation. Unlike Scott, Amundsen was confident with dogs for sledging and sized the hauling groups in order to sustain a continuous and rapid advance forward. He was not much attracted by the technological developments of the time, considering them unreliable (Huntford 2010, 14), and opted for practicality before precision. He was clear that if he was to win the race to the pole, 'science would have to look after itself' (Amundsen 1928, 78). Amidst many financial difficulties, Amundsen managed to depart in July 1910.

On the British side, Scott gathered support and secured £20,000 of governmental funding, while Bruce failed to meet the financial needs for his expedition and had to withdraw. To justify the governmental spending, science would play an important part in Scott's expedition, for which an expressive scientific party was assembled, directed by Scott's close friend, Edward Wilson. Like Shackleton, Scott decided to take ponies instead of dogs for hauling the sledges, on the understanding that they would provide a better service. In contrast with Amundsen, he trusted the potential of new technologies and incorporated a motorized sledge, which had been developed in collaboration with Charcot (Charcot 1911, 17).¹²² The expedition was divided into two teams. Scott's team was aimed to reach the pole, while another party, led by Lt. Victor Campbell, would go east to conduct geographical and scientific work (Hooper 2012). Ignorant of Amundsen's real

¹²² Charcot could not make use of the motor-sledges due to the unsuitability of the terrain he visited and had only tried to assemble one of them for a trial. It was conceived by him as an experiment for future expeditions and not as part of his scheme of transportation on land. See: (Charcot 1911, 18, 111).

destination, Scott dispatched the *Terra Nova*, the expedition ship, in June 2010, and left a month later to reunite with the expedition in Melbourne.

In Germany, Filchner was interested in solving the question about whether Antarctica was a single continent, or two landmasses separated by a strait. In 1909, he took his plans to the German Geographical Society which endorsed his proposal and made it public in March 1910. The announcement brought a lot of criticism in Britain, and Filchner travelled to London to clarify his plans and reach an agreement. He held conversations with Bruce and Scott and agreed with the latter to make his attempt from the opposite side of Antarctica and share their scientific observations. The explorers left on good terms and Filchner was even invited to give a farewell on Scott's departure.

Picture 7: Terra Nova – Late Captain Scott's ship used for the South Pole expedition in 1911-1913



Source: Brodie Collection, La Trobe Picture Collection, State Library of Victoria. Australia.

Nonetheless, in Germany, Filchner encountered countless problems in raising the necessary funds. An appeal to the Kaiser received a straight refusal (Turney 2012, 211–212) but he managed to get the support of Prince Regent Luitpold of Bavaria

who became honorary patron of the expedition. After reducing the scale of the expedition from two ships to one, a national committee was formed and finally gathered the required funding. But the cost of such organization was high. The national committee pushed the candidature of Richard Vahsel, former second officer on Drygalski's *Gauss*, as captain of the expedition's vessel, who would prove to be a conflictive character. Complicating the situation even further, the committee also made the expedition's ship, *Deutschland*, fly under the Imperial Navy flag, which meant that Filchner had to submit to Vahsel's authority while at sea, dividing the chain of command. Like Scott, Filchner was left behind to finish some work while the expedition vessel, *Deutschland*, left Bremenhaven in May 1911. He would only re-join the crew in Buenos Aires before their attempt to reach Antarctica.

But the least known and publicized effort to get to the South Pole was the Japanese expedition led by Nobu Shirase. In contrast with all other expeditions, Shirase didn't have any contact with other Antarctic explorers and, with the exception of Shirase himself, the crew had no polar experience (Turney 2012, 143). Shirase saw the expedition to the South Pole as a way to obtain acknowledgement from the Western world but encountered little support from the government. An original promise for funding and a ship did not materialise and Shirase resorted to Count Shigenobu Okuma, by that time a former politician and prominent defender of Western science in Japan, for support. With Okuma backing the project, Shirase progressively gathered funds for his enterprise. Nonetheless, he failed to gain the support of the scientific societies, including the Tokyo Geographical Society. With limited funding and lack of support from the government and the learned societies, Shirase's scientific programme had to be scaled down, and its priority converted to the south geographic pole (Turney 2012, 208–210).

In a hurry to launch the expedition before the close of 1910, Shirase bought a wooden shipping vessel, renamed it *Kainan-maru* and refitted it with iron plates and new engines. Even though Shirase preferred horses, the limited size of the vessel made Shirase change his plans to dogs, which ended up benefiting the expedition. By the end of November, the Japanese were ready to depart for the unknown.

Picture 8: Edward Nelson, from the British Antarctic Expedition 1910-1913 taking samples with a water bottle in Antarctica



*Source: Ponting, Herbert. Nelson in Igloo with water bottle (Nansen-Pettersson Insultaing), 1911.
©Royal Geographical Society with IBG, UK)*

While the four runners to the pole were already in Antarctica, Douglas Mawson, a former member of Shackleton's *Nimrod* expedition, was looking for support for his own enterprise. Having been approached by Scott to be chief of geology in 1909, Mawson rejected the offer and was then approached by Shackleton, who demonstrated interest in his ideas and in supporting an expedition to 'Victoria Land' with 'purely scientific' interest. In fact, the idea was to conduct prospecting research on valuable minerals. But Shackleton felt short of directing the effort and was eventually limited to offering his 'support' and securing some funding that allowed Mawson to start preparations. The expedition was designed to survey an extension of about 2,000 miles of unknown territory and to conduct extensive scientific observations. The scientific staff would be more numerous than any other polar expedition had had. Mawson appealed to the economic potential and to nationalist aims to attract subscriptions and included an aeroplane to obtain publicity.

Although the aeroplane was a failure,¹²³ Mawson managed to obtain the necessary funds and set sail to Antarctica at the beginning of December 1911.

As it is well known, the race to the pole was won by Amundsen, who achieved the feat on 14 December 1911. Scott and four companions arrived at the spot some five weeks later, on 17 January 1912, only to find the tent and Norwegian flag left by Amundsen and perish on their way back. The Norwegians had collected a fair amount of scientific data, but their real goal and achievement was to be the first human beings to reach the south geographical pole. Scott's expedition achieved a lot more in the way of science and was successful in its main goal of reaching the South Pole. However, the competitive way in which the expedition was conceived, made them consider being second as a defeat.

However, Scott's real failure was not being able to make their way back alive. The choices he made and the way of approaching the expedition have been signalled as being responsible for Scott and his companions' demise, and it has even been argued that the importance given to science played some part in sealing the fate of the party.¹²⁴ Nonetheless, Scott's last sacrifice allowed the British to present his story in a stoic way, being converted to a symbol of British endurance, courage and masculinity. In a way, Scott's failure—that is his death—was a British triumph.¹²⁵

The other parties that went to Antarctica to engage in the race to the pole didn't get to attempt to reach it. The Germans, afflicted by insurmountable internal divisions between the supporters of the leader of the expedition and those of the captain of the ship, saw the hopes of fulfilling the plans of crossing the continent through the pole evaporate when they were caught in the ice of the Weddell Sea.

¹²³ On its inaugural flight in Australia, intended to be used to gather funds for the expedition, the plane had to make an emergency landing that left it damaged and unable to fly. It was nevertheless taken to Antarctica and used as an 'air tractor'.

¹²⁴ Scott stopped on his way back to collect some 15kg of stones to conduct some geological observations. That that alone can be considered a watershed factor is hardly arguable, but it is certain that it didn't help the undernurtured, scurvy-affected and tired men that were man-hauling the sledges with the additional weight.

¹²⁵ Although it is not possible to prove it, it is arguable that his return alive could have had very different consequences. The symbol of the martyr hero rapidly dissipated any criticism over Scott, and it would take several decades until that attitude would be revisited.

Without a chance of being freed, they dedicated themselves to undertaking scientific observations. However, the scientific endeavours did not alleviate the tensions and conflicts that reached an unbearable level.¹²⁶ Filchner and two of his trusted men of went on a sledging trip to corroborate the existence of Morrell's land—an alleged land described by an American sealer—without finding any sign of such territory. Vahsel's sudden death didn't lessen the internal discord and a second attempt into Antarctica was denied once the news of the difficulties of the expedition reached Germany.

Despite being seen as a failure at home, Filchner scientific achievements were recognized elsewhere. His expedition has discovered land at an extreme of the Weddell Sea and proved that a strait beyond it was highly unlikely. But his observations also led to important conclusions in the field of oceanography and atmospheric studies.

Too late in the season, the Japanese expedition was received with incredulity when they called at Wellington in February 1911 (Turney 2012, 135–136). The poor preparation and knowledge of the Japanese regarding what was waiting them in Antarctica roused suspicion of espionage, but the *Kainan-maru* set sail south. Having sighted the mountains of Victoria Land at the beginning of March, by the middle of the month they had to turn around in order to avoid getting trapped in the ice. Struggling with the ice conditions, Shirase's expedition reached Sydney on the first day of May. The Japanese were assisted by the Australian scientist Edgeworth David, who arranged some support from local authorities. With lack of funds, Shirase sent news to Tokyo and asked for additional funding for a new attempt. Okuma delivered. With David's help, Shirase was rapidly updated about Antarctica and, considering that he already was at an absolute disadvantage on the race to the pole, changed his focus from adventure to scientific research (Turney 2012, 139). The stop at Sydney gave a valuable opportunity to the Japanese, who were then in a better position to contribute to Antarctic science, and they departed, in late November 1911, in the direction of 'King Edward VII Land'.

¹²⁶ There were even accusations of shooting between members of the crew. See: (Turney 2012, 173–175)

The Japanese got to the 'Bay of Whales' in January 1912 and encountered the Norwegian *Fram*, anchored just a couple of miles away. From there, Shirase and a small party established a base camp from which meteorological observations were made and a sledge party headed in a south-east direction to explore unknown land. After travelling about 150 miles, Shirase planted a Japanese flag and claimed the area for Japan. In the meanwhile, the expedition vessel had reached the eastern limit of the 'Great Ice Barrier' before heading back to pick up Shirase's team. By the beginning of February, the expedition was forced to leave when the weather conditions worsened.

In Japan, Shirase and his team were received with acclaim (Turney 2012, 149). The contribution of the expedition to Antarctic science was praised and the accounts of the voyage received with favour by a massive audience. But abroad, the whole world remained oblivious to the Japanese achievements, with the exception of those, as David, who had worked with the Japanese. And so it would continue to be.¹²⁷

Mawson's Australasian Antarctic Expedition started by establishing a wireless station in Macquarie Island which would receive Mawson's messages to be transmitted to the continent and serve as base for observations. Mawson's original plan to land at Cape Adare was wrecked by Scott's announcement that one of his group was going there. Heading west, he disproved many of the sightings of Wilkes, being unable to find land behind the ice barrier. On January 1912, he finally came across a site where they could land. There, Mawson erected a hut, while the *Aurora* with eight men continued tracking the coast to the west up to the limit where 'Kaiser Wilhelm Land' starts, erecting a base over the pack ice, as they were unable to find a track of land on sight along the way. At the end of February, Mawson performed a ceremony to claim the land in the name of the King and the British Empire and raised the Union Jack.

Sledges departed to the east and west of each base in order to explore and claim territory. At the end of each trip, the British and Australian flags were to be hoisted. Mawson's party met with tragedy and his two companions perished on the

¹²⁷ Until today, there is little knowledge about Shirase's Japanese expedition in the Western world.

way. Mawson managed to get back to the base, but the *Aurora* had left to pick up the men at the west base. He would need to remain there for another season. From his base, Mawson tried to attract the public's attention by sending an account of his ordeal through the wireless station. However, Scott's fate overshadowed his own and, when finally back, the First World War prevented him from publishing and lecturing around Europe as planned.

Mawson's expedition was outstanding in the advancement of knowledge of the region. The magnetic, geological and meteorological research was not only for the advancement of science itself, but also motivated by his hopes in finding natural resources of value and to foster British rights in the area (Day 2013, 161). However, the official approval of his acts never came, and his suggestion for a formal annexation of the area was rejected by the government. It is possible that the government officials had in mind the French communication of 1912.

Picture 9: Memorial cross to Ninnis and Mertz erected on Azimuth Hill: 'Erected to commemorate the supreme sacrifice made by Lieut. B.E.S. Ninnis, R.F. and Dr. X. Mertz in the cause of science A.A.E. 1913.'



Source: Davis, John King. Wooden Cross with Plaque, 1913. State Library of Victoria. Australia.

With the pole out of competition, a last expedition was conceived by the indefatigable Shackleton. As he saw it, there was a last great journey to accomplish: the crossing of the Antarctic continent (Shackleton 2002, 18). The crossing was first envisaged by Filchner on his 1911-1913 campaign but was rapidly abandoned once the ship was caught in the ice. Shackleton's plan now included two parties, one that would attack the pole from the Weddell Sea, and another that would go south from the Ross Sea, laying depots for the party once they'd crossed the pole. It was expected that such an achievement would sweeten the bitter defeat of Scott by Amundsen and locate south polar supremacy in British hands once again. As with the race to the pole, science was payed lip service, but the clear and unchallenged main goal was a deed of exploration with its symbolic value and expected political consequences. However, the British learned societies were all too well aware of that, as was the hydrographer, and official support ended up being very limited.¹²⁸

As usual, Shackleton confronted substantial financial limitations. The tragic end of the *Terra Nova* expedition and the extinction of the pole as a goal resulted in little public appeal for Shackleton's new enterprise at a time when the government showed little sympathy to such endeavours. Considered as a 'sterile quest'¹²⁹ by the recently appointed Lord of the Admiralty, Winston Churchill, Shackleton approached him with a view to obtaining naval men and several resources in order to facilitate the organization of the expedition, but the Admiralty remained reluctant. There were important reasons to doubt the real scientific utility of the enterprise, and the rising tensions between the European powers meant that no naval resources could be spared. Antarctica was way down on the list of government priorities.

Furthermore, Shackleton was not the only British subject asking for governmental support for an Antarctic expedition. Foster Stackhouse, an RGS fellow

¹²⁸ See the qualification of the hydrographical results from Shackleton's *Nimrod* expedition as 'meagre' in a report by the Hydrographer of 18 February 1914 in: NS1449/1914. Imperial Trans-Antarctic Expedition 1914-15: ADM 1/8368/29. TNA/UK.

¹²⁹ The cite is from a brief comment dated 23 January 1914 and signed W. S. C.: 'Enough life and money has been spent on this sterile quest. The pole has already been discovered. What is the use of another expedition? Let the requests be reported on officially.' (Imperial Trans-Antarctic Expedition 1914-15: ADM 1/8368/29. TNA/UK.)

with no record of polar exploration, had approached the government for support. The British government conditioned any effective assistance on the support of one of the scientific societies in England. But despite Markham's original support for the young explorer,¹³⁰ the RGS president, Keltie, didn't regard his project as viable and was reluctant to involve the society with such an odd proposal.¹³¹ The RGS even had to ask Stackhouse to retract when he announced that he counted on the support of that society, and in 1914 it finally informed him that the society could not give its support for his proposed expedition.

Stackhouse implemented several strategies to materialize his ambitions, including resigning from the leadership of the expedition, traveling to the USA to obtain subscriptions and altering the nature of the expedition from an Antarctic one to a global-oceanic one. He misguided the government as well as potential donors by making vague affirmations about having support from scientific bodies and governmental departments, but the project came to naught.

In that sense, it is interesting to note the role that the RGS played in articulating the relations between Stackhouse, the government and other potential sources of financial aid. The RGS operated as the axis of an epistemic community that not only shared a common background of knowledge and expertise, but also functioned as guardians of the standard that a scientific expedition—and in particular a polar one—should meet.

But Shackleton had the experience and the support—even if limited—from the learned societies and the polar community. The Admiralty eventually conceded the loan of two officials and some instruments under the condition that the expedition would cover the costs. The King presented the Union Jack just before war broke out in Europe and Shackleton offered his ships and men to the Admiralty once the hostilities had begun. In a surly and brief reply, the First Lord of the Admiralty, Winston Churchill, rejected the offer and merely ordered him to 'proceed'. With

¹³⁰ Markham to Keltie, 25 October 1913. Folder 1/4: 1911-1913. Stackhouse, J. Foster Letters 1911-14: RGS/CB8/79. RGS-A/UK.

¹³¹ Keltie to Nordenskjöld, 13 March 1914. Folder 42: Anglo Swedish Antarctic Station - 1914 Correspondence. Anglo Swedish Antarctic Expedition: RGS/CB8/5. RGS-A/UK.

restricted finances and not knowing how things would develop in Europe, Shackleton headed south.

Shackleton was informed by the whalers in South Georgia of the particularly adverse conditions of the ice that season, but insisted on his course to the Weddell Sea. There, he got trapped by the ice and all attempts to free the ship were unsuccessful. In 1915 the *Endurance* was cracked by the ice-compression and started to take on water. Shackleton and his party managed to take out some of the gear, photographs and personal items, before the ship sunk. Then they began a journey of survival through the drifting ice to Elephant Island and, then, to South Georgia where they were able to ask for rescue.

With the British involved in an interminable war in Europe, Shackleton and his companions' fate were not a priority.¹³² But for the Chileans, the situation offered an opportunity they would seize. Following a verbal request by the British representative, the Chilean Navy accepted the task of rescuing the men trapped in a territory in which they had already manifested interest. With the *Yelcho*, the Chileans managed to rescue Shackleton and the remaining men at Elephant Island, bringing back the whole party alive.

The Ross Sea party also confronted substantial difficulties of their own. After laying some of the planned depots for Shackleton's party, some of the men died and the survivors had to be rescued, after Shackleton managed to organize a relief expedition. Among them, the young geologist John Lachlan Cope, who a few years later would star in one of the most controversial events of Antarctic exploration.

Unlike the expeditions of 1901-1905, and Charcot's second expedition of 1908-1910, the expeditions that followed were not mainly motivated by a scientific aim, and the participation of the scientific organizations was mainly subsidiary. With

¹³² Churchill wrote to his wife from a Flanders trench in 1916: 'When all the sick & wounded have been tended, when all their impoverished & broken hearted homes have been restored, when every hospital is gorged with money, & every charitable subscription is closed, then & not till then would I concern myself with those penguins. I suppose however something will have to be done.' (Winston to Clementine, 28 March 1916. Sir Winston Churchill's Letters to Lady Churchill. The Papers of Clementine Ogilvy Spencer-Churchill, Baroness Spencer-Churchill of Chartwell: CSCT 2/9. CAC/UK)

the exception of Scott and Filchner's agreement, there was no specific arrangement or common approach regarding the scientific questioning of the continent. Swedish scientists gathered around Nordenskjöld's initiative formed an International Polar Commission, but were confronted by the predominant 'sensationalism and chauvinistic nationalism' in their efforts to obtain support for systematic and sustained scientific research (Roberts 2011, 16). The division of Antarctica was interpreted as a division of a personal nature, particularly as Scott considered the region of the NAE as his rightful area. The competitive nature of the expeditions resulted in secrecy and reluctance to share information; and science, despite remaining the prominent legitimate motive for Antarctic involvement, suffered from the emphasis given to adventure.

The nationalist character of the first wave of expeditions was framed as a competition in which each nation would contribute further to the development of the common civilized goal of scientific knowledge. But the growing spectacle-facet of Antarctic exploration and the growing nationalism within Europe seems to have led the second wave of the heroic age of Antarctic exploration to being entrapped in a rivalry logic that affected scientific international cooperation.

Nonetheless, the already constituted community of Antarctic explorers and scientists continued to collaborate and assist each other in terms of information, public support and influence. Also, they operated as a filter to assure that science was a relevant part of the Antarctic endeavour, and that it be conducted under a certain standard. In that sense, the existing scientific organizations played an important role as agglutinating factors and interlinks between the scientists and the governmental officials. It is true that most proposals centred on the scientific aspects of Antarctica were unsuccessful—such as Bruce's and Nordenskjöld and Andersen's Anglo-Swedish Antarctic Expedition—but also it is true that science continued to exert an important role in how the expeditions were regarded and which expeditions were given governmental and official support.

The outbreak of the First World War in 1914 interrupted all Antarctic efforts, demonstrating the relatively marginal status of Antarctica. Apart from Shackleton's Imperial Trans-Antarctic expedition, the years of the First World War (1914-1919)

saw only the permanent work developed by the Argentine observatory on Laurie Island and the operations of the whaling fleet, which was harvesting the richness of the southern seas and building an economic empire. The British government in the Falkland Islands (Malvinas) controlled the operations of the whaling companies in what they defined as the Falkland Islands Dependencies (FID), gaining much needed funds for an economically unviable colony; while the companies enjoyed the benefits of a regulated activity for a relatively low cost. The rest of the political world remained uninterested, but not for long.

Chapter Three: A Whaling Empire

Until the end of the First World War, Antarctica had not been relevant on the political map. It was the aftermath of the conflict and the consequent review of the geopolitical balance that made Britain, and later on other countries, contemplate the white continent within their political and strategic considerations.

The precedent of the Falkland Island Dependencies gave the British the confidence to attempt to control the whole continent, once the economic prospects based on whaling became more interesting. But they were not the only parties involved in the economic exploitation of Antarctica. The increasing activity of the Norwegian whaling fleet posed a growing threat to British supremacy. The recognition of British authority on the FID did not prevent them from undertaking whaling activities outside of the region defined by the Letter Patents, not only preempting the British of obtaining the lucrative licenses' fees, but also putting at risk the whole natural resource until they could find some effective mechanism of regulation that could allow a rational and sustainable exploitation.

Therefore, the British formulated a plan for a complete inclusion of Antarctica within the British Empire through its dominions in the southern hemisphere. However, that project was first forestalled by France which, by claiming a portion of Antarctica that laid within the pretended Australian sector, impeded the advancement of the proposed strategy. Not being discouraged by the French actions, Britain advanced in its attempt to establish itself as the universal administrator of the region's main resources—the whales—through a hegemonic project in which science would have a central role.

In this phase, science continued to play an important part of all activities in Antarctica, even when subordinated to other political ends. Besides the usual justification as a scientific enterprise, Antarctic activities in this phase had the characteristic of being oriented to establish a basis for the regulation of fishing economic activities—and to a much lesser extent determining the prospects for mining and others—and to consolidate a knowledge of the region that could be used for political aims, particularly as a basis for territorial claims.

But despite being included in the political agenda, Antarctica continued to be an issue subordinated to other more pressing issues. Bilateral political and economic relations and global politics considerations continued to be ranked against the assertion of territorial sovereignty in Antarctica. That explains why international competition on the sixth continent remained being managed through diplomatic channels. No common background authoritative legal structure was shared by the competing parties, which debated the adequate principles that would apply to the Antarctic continent, a region that started to be approached not any more as a space of its own, but as a space for colonization.

3.1 British Colonialism in Antarctica: A Plan for the Complete Hegemony of Antarctica

The 1908 Letters Patent were amended in 1917, in order to avoid the possibility of any misinterpretation (See *Figure 5*). A deep concern arose in Argentina and Chile that the vague language of the instrument could be reflecting British pretensions over the south of the American continent, a concern that was already expressed in a Chilean report of 1907.¹³³ The British corrigendum was oriented to avoid the whole title being questioned on that basis, but besides the explorers' own initiatives in claiming lands in the name of the crown, no official claim to other Antarctic land had been laid.

That would change after the war, and as soon as 1919, the British started to develop a plan for the complete inclusion of Antarctica into the Empire. The aftermath of the war resulted in harsh conditions over the defeated Germany, one of which was the abandonment of its recently built colonial empire. Part of the peace conditions imposed was article 118, which provided for the renunciation of all German territories, rights, titles and privileges outside her European frontiers as

¹³³ See: Informe Presentado al Ministerio de Relaciones Exteriores sobre la Situación Internacional de la 'Antártida Americana' y los Derechos que a Ella Podría Chile Hacer Valer, by Alejandro Álvarez, 12th February 1908. Folder: Chile. Misiones de Chile en América y Europa, 1911: Fondo Histórico/Vol. 427A. AGH-MRE/CHL.

defined on the Treaty of Versailles.¹³⁴ Despite ‘No strategic interest is thought to be involved in this matter...’, the hydrographer noted the potential for ‘a possible utilisation of such regions in connection with whaling and sealing etc. In consequence of recent scientific progress in the detection of floating ice.’¹³⁵ Consultation with Antarctic experts such as W. S. Bruce¹³⁶ resulted in the modification of the original proposal of banning claims south of the Antarctic Circle with the 60th parallel chosen instead, but the peace treaty adopted a broader and more practical formula which also excluded the possibility of any German claim on the Antarctic and sub-Antarctic regions.¹³⁷

There didn’t seem to be much interest in Antarctica until the middle of 1919, when the Colonial Office started to consider the question of British rights in Antarctica.¹³⁸ The Colonial Office asked the Admiralty about information regarding grounds for claims by Britain and foreign countries, resulting in a report that concluded that the British possessed the best ground for claims in the Antarctic and that, once that Germany had renounced any potential claim in Antarctica, only France and the United States seemed to possess some ground for advancing claims.¹³⁹ It is interesting to note that Argentine claims were considered ‘miscellaneous’—jointly with those of Portugal and Japan—and that Chile was completely absent from the memo. That disregard of Argentine and Chile aspirations in Antarctica would be a common feature of British Antarctic policy during this phase even when Argentina started to send some signs of contempt before the closing of the 1920s.

¹³⁴ Parry to Nicholson, 13 March 1919. Folder: German Claims in the Antarctic. Peace Conference: ADM116/3243. TNA/UK.

¹³⁵ Hydrographer of the Navy to the S.A.S. Admiralty Paris, 31st January 1919. Folder: German Claims in the Antarctic. Peace Conference: ADM116/3243. TNA/UK.

¹³⁶ See: Bruce, William S. - Postcard and Letter to RNR Brown, 1912-1919: MS 441/6/1-2, SPRI-A/UK.

¹³⁷ That would ‘ensure all possible land connected with “Kaiser Wilhelm II Land” being included, as it lies so very close to the Antarctic circle’. (Parry to Nicholson, 13 March 1919; *op. cit.*)

¹³⁸ Lambert to the Secretary of the Admiralty, 28th July 1919. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹³⁹ Territorial Claims in the Antarctic Regions – Compiled in the Hydrographic Department of the Admiralty, 1919. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

The consideration of British titles to Antarctica in such a favourable light prompted the government to promote a plan to include the continent within the Empire. In a confidential note of 5 December 1919, the Colonial Office informed the Foreign Office that:

His Lordship has come to the conclusion that it is highly desirable that *the whole of the Antarctic should ultimately be included within the British Empire*. He would not propose that a claim to all the continental territories should be put forward publicly at present, but he holds that a definitive and consistent policy should be followed of extending and asserting British control with the object of ultimately securing complete and unquestioned ownership. This policy is entirely justifiable. With the exception of portions of Chile and Argentina and a few isolate islands belonging to France, every inhabited land in the direction of the Antarctic regions is already British and inhabited by peoples of British descent; and the dominance of British discovery and enterprise in the Antarctic is overwhelming. *The control of these waters by a single power would be of universal advantage in that a policy of conservation could be followed with a view to preventing the virtual extermination of valuable animals which has taken place in Arctic seas.*¹⁴⁰ (Emphasis added)

The British view at that time was predominantly political and followed legalist considerations. Scientific knowledge was not seen as providing any kind of particular ground for sovereignty and its utility was secondary and limited to the geographical aspect. The several demonstrations that Wilkes's land sightings were fictitious was a compelling argument for denying any right to the United States resulting from discovery. In addition to the claim to unknown land being considered unsound, there was a denial that any right could arise from inherited or other 'natural' rights.¹⁴¹

However, there were compelling practical reasons to develop a sustained effort for Antarctic research. In particular, the idea of participating in a common universal scientific enterprise was replaced by the more practical idea of assuming the administration of the region based on scientific information—that would legitimize

¹⁴⁰ Lambert (Colonial Office) to the Under Secretary of State of the Foreign Office, 5th December 1919. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹⁴¹ This seems not to have been directed to forestall Argentine and Chilean claims, but it could be argued that it informed British policy regarding those claims when they became a serious concern within the British Antarctic policy.

its administration—in name of ‘universal advantage’. To know the terrain was an expression of ownership and involvement, a way to ‘colonize’ those unpopulated and unexplored spaces.

In terms of political implications, the British were aware that France reserved its rights in 1912 to an undefined region of the Antarctic and feared that France could advance a claim to a wide area around ‘Adélie Land’, in the region located south of Tasmania. The British were interested in the potential for whaling in the Ross Sea and saw that area as a priority. For that reason, they considered which options were available for establishing the Empire’s dominion on that sector without prompting a negative response.

The possible French reaction was the main impediment to the complete incorporation of the region within the Empire (Day 2013, 185–186). In February 1920, the Under Secretary, Amery, wrote to the Commonwealth of Australia and New Zealand informing them about the decision of incorporating the whole continent within the Empire and explaining the grounds under which the decision had been made.¹⁴² The options available were discussed in a meeting between representatives from the British government and the Commonwealth of Australia and New Zealand in February 1921, but the decision was postponed as there was no clear position regarding the way in which such incorporation should happen, who would be assigned with the responsibility and if an expedition should be sent to take formal possession.¹⁴³

In a ‘Memorandum on Control of the Antarctic’ it was suggested that the most propitious way to incorporate portions of the Antarctic under Australian and New Zealand jurisdiction would be to issue Letters Patent in the case of Australia, and an Order in Council in the case of New Zealand.¹⁴⁴ It also considered that action

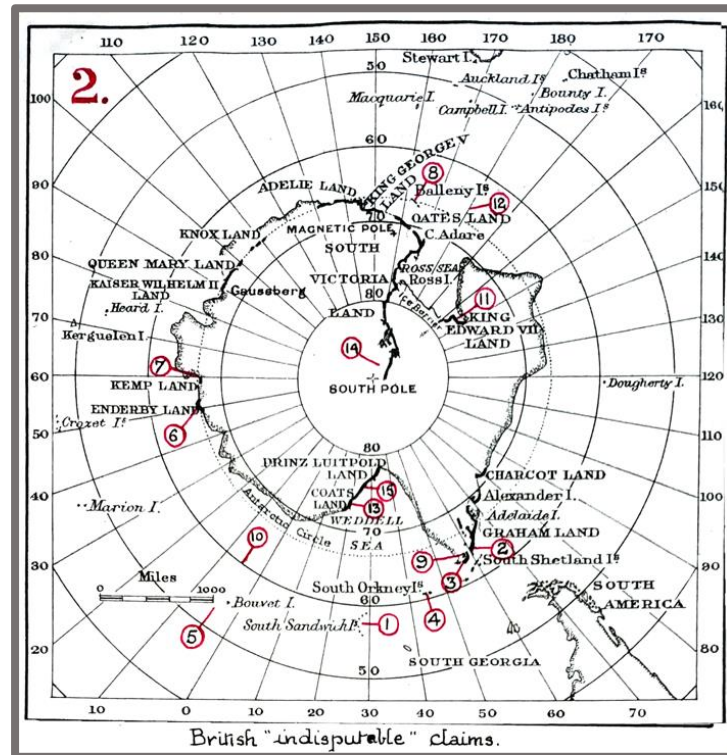
¹⁴² Amery to the Commonwealth of Australia, 6 February 1920. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹⁴³ Millen to Hughes, 28 April 1921. Colonial Office, 3 February 1921. Hughes to Millen, 29 January 1921. Future Policy of Empire in Antarctic Regions and others in: Antarctic Control I – to Imperial Conference 1921’ Part 1: A981/ANT4/PART1. NAA/AUS.

¹⁴⁴ Memorandum on Control of the Antarctic, Colonial Office, March 1921. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

regarding the 'New Zealand area' could be taken immediately, but it suggested that the 'Australian sphere' be approached more cautiously, due to the possible reaction from France.

Picture 10: Map: British 'indisputable' claims



Source: Memorandum on Control of the Antarctic, p.49. ADM1/8565/226, TNA/UK.

By that time, two British expeditions were being organized—including one by the already prominent Shackleton—neither of which had important official support nor had they obtained the public's favour. John Lachlan Cope, a young graduate from Cambridge who participated in the Ross Sea party of the Shackleton 1914-1917 expedition, presented, in January 1920, an extensive scheme involving the circumnavigation of the Antarctic continent and the exploration of its interior by aeroplane as a way to develop a better knowledge of its economic potential (Day 2013, 182; Harrowfield 2013, 118). By June 1920, the so-called 'British Imperial Antarctic Expedition' had already been scaled down to a four man party¹⁴⁵ that would be restricted to developing scientific research in the Antarctic Peninsula with no aircraft.

¹⁴⁵ This included the Australian pilot and photographer George Hubert Wilkins, who would go on have an extensive record of Antarctic exploration.

The expedition ended in a fiasco and two of the men were practically abandoned in an improvised hut on a small Antarctic island on January 1921 when Cope and Wilkins left them behind to gather further funds. Cope failed to organize a relief ship and Wilkins ended up joining Shackleton's expedition, so the two men had to be rescued by a whaler ship a year after being left. With scarce supplies and scientific equipment, the two men managed to gather an impressive amount of information on several scientific fields during what ended up being the smallest British expedition that overwintered in Antarctica (Harrowfield 2013).

Picture 11: One of the members of Cope's 'British Imperial Antarctic Expedition' left on Graham Land with the improvised hut at 'Waterboat Point'

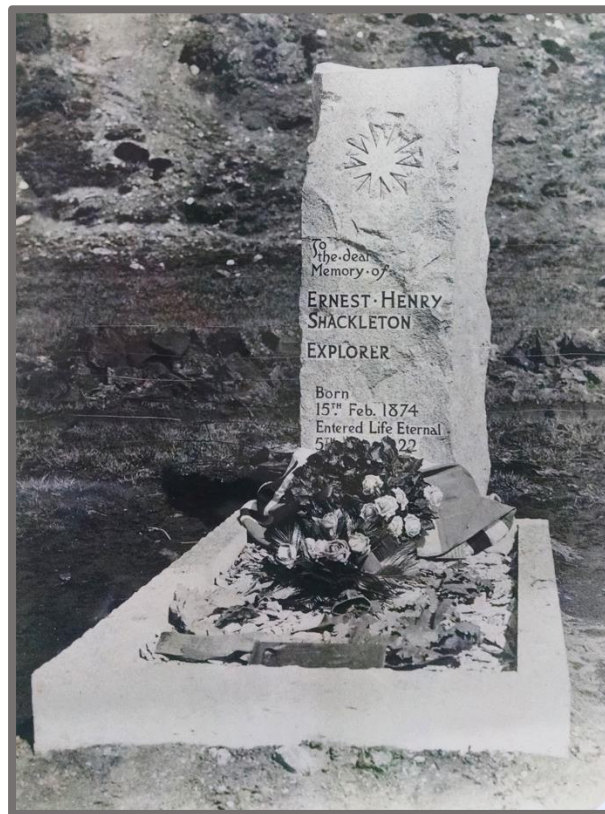


Source: Bagshawe, Thomas Wyatt. [Lester], ca. 1921. P52/8/71. Scott Polar Research Institute. UK

Despite lacking official support, Shackleton's devised strategy to gather public attention was more successful. After inviting two 'Boy Scouts' to join the expedition—about 1700 applied—publicity followed. However, from when he sailed in September 1921, the expedition confronted severe difficulties, having to call at Lisbon and later on Rio de Janeiro for works on the *Quest*'s engines, which impeded them from retrieving the stores sent to Cape Town to operate the aircraft they'd taken for what could have been the first flight in the continent, if it had not been for those setbacks. The expedition's complications led Shackleton to a health crisis that resulted in his death in January 1922, in South Georgia. The explorer's remains would

eventually be buried in Grytviken,¹⁴⁶ where a memorial was afterwards built as a symbol aimed at reinforcing the track record of the British presence and thus, their claim to the area (Day 2013, 188). In the aftermath of Shackleton's death, the *Quest* continued its attempt to explore the eastern Antarctic under the command of Frank Wild but was impeded by the ice conditions and the shortcomings of the ship. Without many achievements to show, the expedition was called back to England in June 1922 by its benefactor, John Quiller Rowett.

Picture 12: Shackleton Grave's Memorial built in Grytviken in 1928



Source: To the dear Memory of Ernest-Henry Shackleton. Enclosure N°II to Falkland Islands Despatch N° 101 of 4 March 1928. CN 3/23 [CO 78/179/5 21B], TNA/UK.

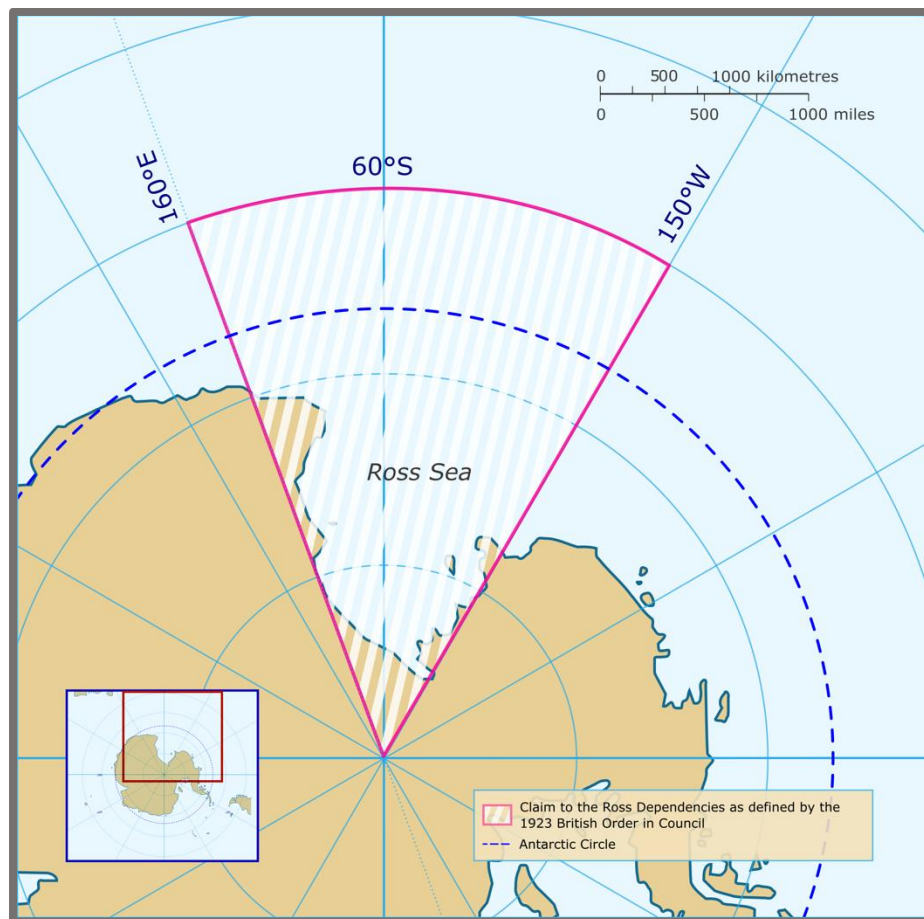
The same month, an application for a whaling license by C. A. Larsen in the Ross Sea area was seized upon as an opportunity to advance with the British plans.¹⁴⁷

¹⁴⁶ Shackleton's remains had travelled as far as Uruguay before notice of his wife's will that he should be buried in Antarctica reached there. Thus, Shackleton's remains were sent back to Grytviken where he was finally buried.

¹⁴⁷ Antarctic Lands, undated. Folder: Antarctic Lands. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

The license was issued in December 1922 and an Order in Council was promulgated on 30 July 1923, by which the coasts of the Ross Sea with the islands and territories adjacent, between 160° east and 150° west, and south of the 60° south parallel, were considered 'British settlement', named the 'Ross Dependencies' and put under the administration of the governor of the 'Dominion of New Zealand' (See *Figure 6*).¹⁴⁸ Additionally, in October 1923, the New Zealand Minister of Marine was designated as responsible for the issuing of whaling licenses for the Ross Dependencies.¹⁴⁹ With those actions, the British expected to be laying the basis for an incontestable claim to that region, advancing towards the complete inclusion of the continent into the Empire.

Figure 7: Sketch Map of the Ross Dependencies as Defined by the 1923 British Order in Council.



Source: Elaborated by the author.

¹⁴⁸ Hankey: Order of His Majesty in Council of 30th July 1923. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹⁴⁹ Jellicoe to the Secretary of State for the Colonies, 3 October 1923. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

The French response was immediate. On 26 March 1924, a decree designated the Crozet, Kerguelen, Saint Paul and Amsterdam islands under the surveillance zone of the French naval forces of the Indian Ocean; and 'Adélie or Wilkes' land as part of the surveillance zone of the naval forces in the Pacific.¹⁵⁰ The following day, another decree reserved mining, hunting and fishing rights in the Crozet archipelago and 'Adélie or Wilkes' land and its territorial waters to the French, putting the implementation of such measures under the Minister of the Colonies.¹⁵¹ Additionally, the administration of those regions would be put under the government of Madagascar.

The French decree obscured the prospects of incorporating the 'Australian sector' to the British Empire. Of particular concern was the definition in the French decree of the area comprising 'Adélie or Wilkes' land, which being kept undefined, could mean a French extension of the claimed area to lands discovered and explored by Mawson in his 1911-1914 Australasian Antarctic Expedition, which Mawson named Wilkes Land even when they were not discovered or mapped by the latter. The concern even projected doubts whether the French reference to 'Wilkes Land' could be interpreted as referring to a claim extending to the whole Antarctic continent.¹⁵²

In other quarters, all potential claims to Antarctica were being challenged. In 1924, the US Secretary of State, Charles Evans Hughes, declared that the United States of America would not recognize any claim to land that had not been followed

¹⁵⁰ Ministère de la Marine, 24 March 1924. Folder: Crozet Islands – French decree concerning mining, hunting and fishing rights. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹⁵¹ Journal Officiel du 29 mars 1924. Folder: Crozet Islands – Kerguelen St Paul & Amsterdam Islands & Adélie Land – Desp. To Australia & New Zealand authorities. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹⁵² However, there seems not to have been any reasonable grounds for such concern. For a report expressing that idea, see: Baddeley to the Secretary Navy Board Melbourne and others, 10 October 1924. Folder: Crozet Islands – French decree concerning mining, hunting and fishing rights. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

by effective occupation, putting into question in a single stroke the British Letters Patent of 1908 and 1917 defining the Falkland Island Dependencies; the Order in Council of 1923 defining the Ross Dependencies; and the French decree claiming rights over Adélie (or Wilkes) Land.

In fact, the declaration was originally a response to a communication from the Norwegian embassy regarding the Arctic. It was motivated by news that asserted that Amundsen had offered to the US government possession of lands discovered in his planned transpolar (Arctic) air expedition. However, the US replied, on 2 April 1924, that the government had no official involvement with the expedition.¹⁵³ Furthermore, it declared that ‘this Government [USA] cannot admit that such taking of possession as a discoverer by Mr. Amundsen of areas explored by him could establish the basis of rights of sovereignty in the Polar regions’. (Fuller 1939, 2914)

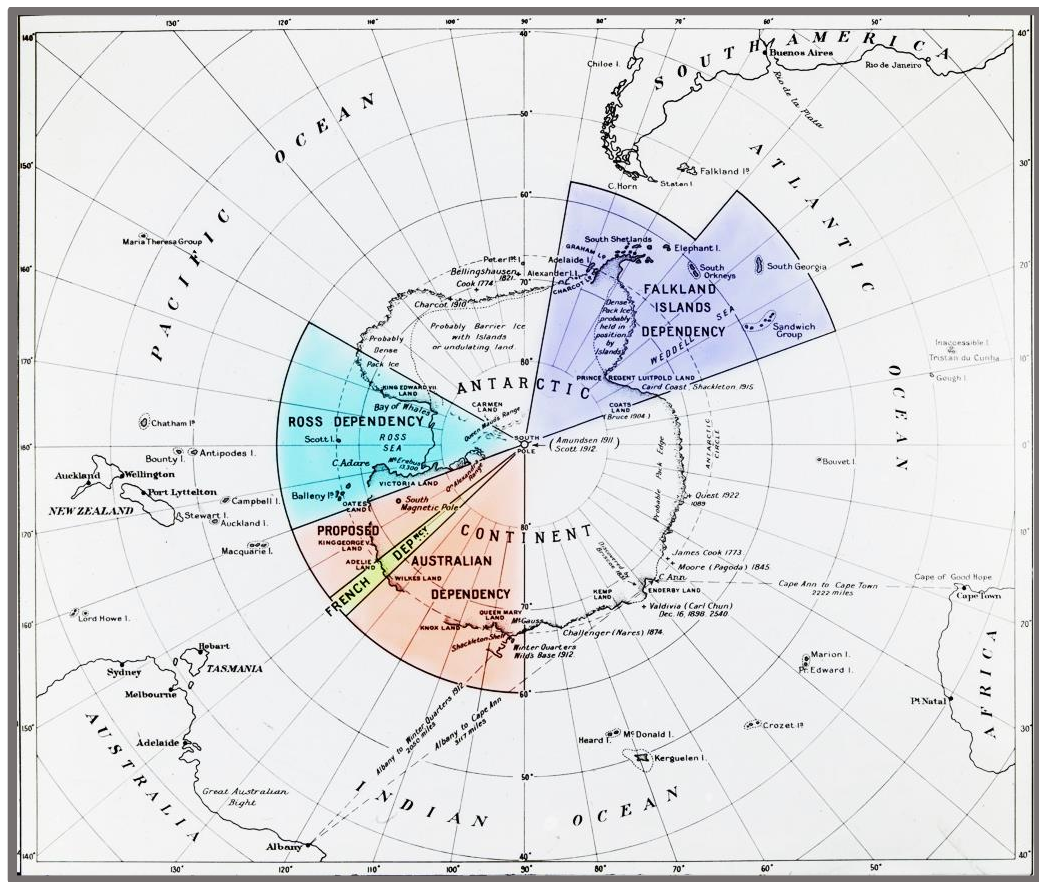
The next month, Hughes responded in similar terms to a letter from the Secretary of the Republican Publicity Association in which he enquired about the legitimacy of American rights to ‘Wilkes Land’.¹⁵⁴ On that occasion, Hughes answered that ‘the discovery of land unknown to civilization even when coupled with a formal taking of possession, does not support a valid claim of sovereignty unless the discovery is followed by an actual settlement of the discovered country’ (Miller 1927, 509–510). With this reply, the USA was setting the grounds for what would be known as the ‘Hughes doctrine’, a doctrine based on the non-claiming and non-recognition of any claim in Antarctica, and which would inform American policy during the following decades. Through it, the USA defended an ‘open door’ policy in Antarctica, (H. R. Hall 1989) coherent with its foreign policy in extra continental areas,¹⁵⁵ and which would assure unrestrained access to the white continent, even when, for the time being, the British would remain oblivious to it.

¹⁵³ It had merely granted Lieutenant Davison of the Navy to volunteer for the expedition.

¹⁵⁴ History and Current Status of Claims in Antarctica, March 1948, p.21. US Antarctic Projects Officer - Records Relating to Antarctic Claims 1929-1957. Records of the Office of the Secretary of Defence: RG 330. NARA/USA, MD.

¹⁵⁵ Hall presents an interesting analysis on how the Hughes doctrine could be considered part of the wider USA ‘open door’ policy which informed its attitude towards China at the turn of the 20th Century.

Picture 13: Map of Antarctica with British and French Claims including the proposed Australian Dependency, Ca. 1925



Source: Davis, John King. *Map of Antarctic Region, Ca. 1925*. State Library Victoria. Australia.

In Britain, the delay in advancing a claim to the 'Victoria Quadrant' was generating some anxieties in certain sectors of the government. In December 1924, Leo Amery, by then Secretary of the Colonial Office, informed the Admiralty that he considered that no further delay could be afforded in asserting British rights to an Australian sector in Antarctica.¹⁵⁶ Nonetheless, a memorandum prepared by the Hydrographic Department of the British Admiralty¹⁵⁷ in 1925 concluded that French claims to Adélie Land were 'indisputable', and that the assertion of British sovereignty

¹⁵⁶ Harding to the Secretary of the Admiralty, 4 December 1924. Folder: Antarctic Lands. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹⁵⁷ The French Claim to Part of the Antarctic Continent – Memorandum prepared in the Hydrographic Department, Admiralty. January 1925. Folder: Antarctic Lands. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

in the sector between 90 and 160° east longitude was impractical if a rupture with France was to be avoided. It therefore recommended that the Foreign Office make every effort to obtain a definitive statement as to the extent of France's territorial claims in Antarctica. Despite Australian insistence on the weakness of the French position regarding Adélie Land and urgency in advancing a claim in the name of Australia, it was decided that it was not possible to adopt any position until more definitive information be made available by France about the extent of its claim.

To complicate matters further, in January 1925, the Norwegians enquired through its legation in Paris whether the British considered the Ross Sea as waters of the Commonwealth of Australia. The British interpreted the manoeuvre as a way of obtaining support for the Norwegian claim to the fjords as national waters.¹⁵⁸ But the Norwegians were actually questioning the possibility of laying claims to islands yet-to-be-discovered and extending beyond the three-mile territorial limit of the coast, which in the case of the Ross Sea was hard to discern with the existent knowledge at that time. Additionally, the Norwegians argued that the South Pole and the route followed by Amundsen should be excluded from the British claimed area, arguing that it was previously formally claimed by the so-mentioned explorer on his South Pole expedition (Day 2013, 194).

In June 1925, the British government answered that there was no land in the said area that was not British by discovery, and that Amundsen's claim to the polar plateau was forestalled by the previous discovery of the plateau by Shackleton, even though he hadn't reached the pole. Stating that it was not the intention 'to minimize in any way the value of the work of Captain Amundsen...', it nevertheless described the historical feat as penetrating only 'a few miles further than Shackleton into the plateau discovered by the latter'.¹⁵⁹ As with the FID, the British considered that the request of licenses by Norwegian whalers was an implicit recognition of their

¹⁵⁸ See Folder: British Rights in the Antarctic Regions [File number: 94-105]. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

¹⁵⁹ Draft note to Vogt, June 1925. Folder: Ross Dependency – Ownership of. Antarctic: Question of British Rights in the Antarctic now under consideration: ADM1/8565/226. TNA/UK.

sovereignty in the area and that it was better to let the matter lie. Nonetheless, they were about to be disappointed.

3.2 Science at the Service of the Empire: The *Discovery* Expeditions.

The First World War changed not only the map of Europe and its colonies, but also altered political, economic and social relations around the world. The incipient impulse of institutionalization of international science was suddenly interrupted by the beginning of hostilities. Scientists and scientific institutions were divided in two opposing camps and put their skills to the service of their governments and the military (Greenaway 1996, 15–16). Scientific and technical knowledge had expressed its utmost strategic importance during the war and the view of science as a universal enterprise of the civilized world was somewhat diluted. The recently established International Association of Academies became ineffective during the war and eventually was dissolved.

In 1917, the UK's Royal Society invited the French *Académie des Sciences* to discuss a future international scientific organization. It was considered that a new and stronger organization was needed (Greenaway 1996, 17) and a preliminary consultative meeting was convened in late 1918, including participants from the UK's Royal Society, the French *Académie des Sciences*, the Italian *Accademia dei Lincei*, and the US National Academy of Sciences. The political divisions of the war interfered with the views of the scientists, and pressure from the French representatives meant the Central Powers and their allies were excluded from the future organization. The International Research Council (IRC) was founded, and it became operational on 1 January 1920, after associations from Belgium, France, Italy, the UK and the USA expressed their adherence to the new organization. It was agreed that it would remain in force until 1931 when the parties would review its operation.

The IRC was organized with the idea that it would constitute an umbrella of specialized scientific unions. The International Unions of Astronomy (IAU), and of Geodesy and Geophysics (IUGG) were constituted in 1919 while the Statutes of the IRC were being considered at a meeting of the provisional Executive Committee in

Paris. Other disciplines followed suit, but participation was thought of on a national basis and political considerations continued to exert an important influence on the Council. It wasn't until 1926 that an extraordinary meeting of the General Assembly deleted the resolution that inhibited the 'Central Powers' and their allies from becoming members. While some mistrust remained, the removal of the political barrier enabled the resumption of wider international scientific collaboration, and only a year later, a project for a second IPY was born. Science and international politics were intrinsically nested.

In 1920, Frank Debenham and Ramon Priestly, survivors of the Scott South Pole expedition of 1910-13, and James Wordie, Shackleton's companion on the *Endurance*, had convinced the Committee of the Scott Memorial Fund—raised to indemnify the dependents of the deceased party that reached the pole in 1912—to use the remaining balance for establishing an institute in memory of the praised explorer. The Scott Polar Research Institute (SPRI) was thus established as part of Cambridge University, under the direction of Frank Debenham. It was designed to be a gathering place for polar scientists, explorers and travellers, and a centre for the collection and distribution of polar knowledge. In the words of a commentator of the time, it was aimed 'above all, to maintain communication with all polar explorers, investigators, and students without any restriction or qualification' (Mill 1928, 332). Even with many restrictions of space, personnel and resources, the Institute formed a reference that would eventually offer a shared identity for the constitution of a British polar community.

Nonetheless, the promotion of polar science was not exclusive to British universities. Just a few years later, a British expedition was sent to traverse the southern seas in an ambitious oceanographic programme with implicit political aims. The idea followed the demise of the Anglo-Swedish expedition projected by Nordenskjöld and Anderssen. But instead of being an international collaboration programme or as part of a wider global effort to unveil the mysteries of the southern oceans, the British initiative was oriented to exert its hegemony over the Antarctic

and, particularly, over the administration of its most important resource, the whales.¹⁶⁰

The war brought to notice that scientific research in the dependencies had been done mainly by foreigners and it was decided that any future undertaking should be of a national character. With that consideration, in 1917, Harmer informed Nordenskjöld that it was not likely that the cooperation scheme would materialize (Roberts 2011, 27). Following that, the Interdepartmental Committee on Whaling was replaced by a wider scoped committee known as the Interdepartmental Committee on Research and Development in the Dependencies of the Falkland Islands (Savours 2013, 204). Its aim was to study the general characteristics of the biology and physical conditions of the FID to have a general panorama of its economic prospects. It met between 1918 and 1920 and produced a report in which it was concluded that one priority should be obtaining scientific information on which base the regulation of whaling activities in the dependencies. Research on whaling was starting to be seen as subsidiary to the development of the FID and to the Empire as a whole (Roberts 2011, 27).

That recommendation led to the establishment by the UK Secretary of State for the Colonies of an Executive Committee charged with carrying out the report's recommendations and which would be known as the 'Discovery Committee'. Duties from whale oil obtained in the FID would constitute a Falkland Islands Research and Development Fund that would be managed from London and finance the activities of the Committee. Instead of the former *ad-hoc* committees born from the learned societies, sometimes with the participation of some government departments, and oriented to organize and implement a single expedition; the Discovery Committee was a strictly official committee of experts funded under a much more permanent scheme and oriented to a sustained effort directed to a particular political aim.

The Committee bought Scott's old *Discovery* ship and refitted it as an oceanographic vessel at considerable cost. It also bought another ship, the *William*

¹⁶⁰ In the masterly words of Peder Roberts: 'whaling became the dominant driver of Antarctic science and exploration, the engine that brought the Antarctic into the international political and economic system' (Roberts 2011, 12).

Scoresby, and mounted a small laboratory in South Georgia. The proposed programme was designed on scientific grounds, leaving behind the tradition of adventure and geographic exploration that characterized much of the previous state-supported British Antarctic efforts. The experienced explorer Louis Bernacchi, who took part in Gerlache and Scott's *Discovery* expeditions, even proposed an expedition for 1925-1927 to the Ross Quadrant to explore the unknown land using modern forms of transportation and making use of the *Discovery* for oceanographic work, but it was rejected.¹⁶¹

Nevertheless, the *Discovery* expedition was not motivated by the purely scientific aim of obtaining general knowledge, but rather by a utilitarian view in which scientific knowledge would serve economic interests to foster imperial development of Britain's colony. It was not any more participation in a common enterprise of civilized nations, but the establishment of authority based on a specific knowledge. Politics, economy and science intersected in the administration of the oceanic resources, particularly the whales, and Britain would hold what Adrian Howkins termed 'environmental authority' (Howkins 2008b) as a way to promote its Antarctic hegemony.

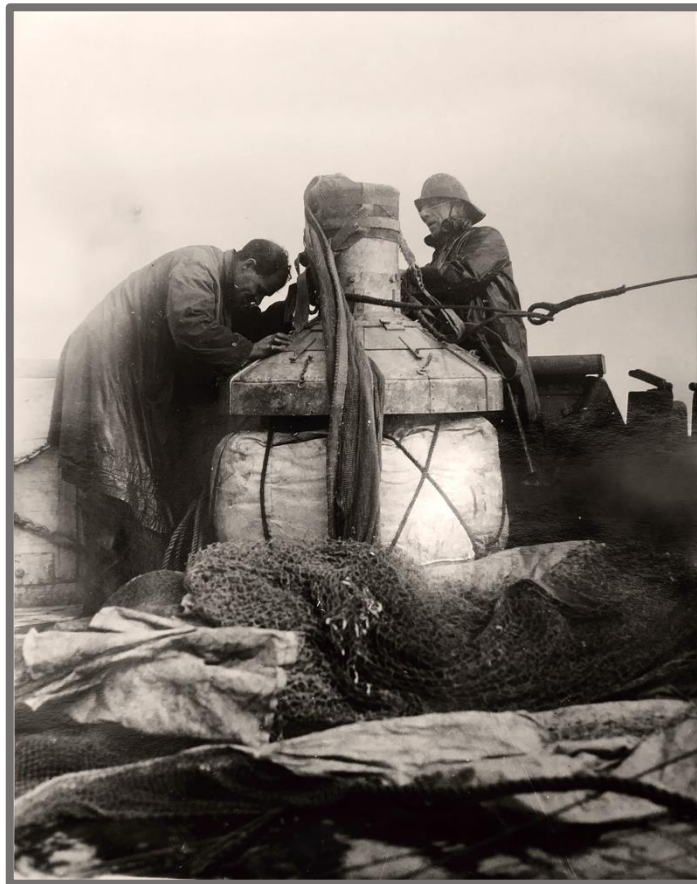
In the case of the *Discovery* expeditions, the leader outranked the ship's commander, inverting the hierarchy of pre-war expeditions. That did not prevent naval discipline, political interference and scientific interests entering into conflict (Roberts 2011, 36-37). However, the expedition gathered important information that allowed a more complete picture of the distribution of whales, their migration patterns and their environment; even though converting that information into a specific policy was something much more complex than was foreseen, especially when technological development posed new threats to the conservation of the southern oceanic resources.

In 1925 a Norwegian company started to conduct 'pelagic' whaling in Antarctica. A redesign of the factory ships allowed them to process even the bigger

¹⁶¹ See Folder: British Antarctic Expedition 1925-27 under Commander Bernacchi: T161/252/27260. TNA/UK.

whales in the high seas, removing the need for nearby shore stations. That constituted a potential challenge to the British intention to exert an authoritative function in Antarctica and, at the same time, was a threat to the funding sources of the Discovery Committee, which depended on the revenues of whaling licenses issued by the British government in the Falkland Islands (Malvinas) (Roberts 2011, 37–38). If the British administration over whaling activities and the whaling research were to be maintained, an agreement with the Norwegian government would have to be reached.

Picture 14: Discovery research ship members conducting observations at sea



Source: Science in the Antarctic, 1937. IM/000115 RS-A/UK.

In that regard, it was a favourable circumstance that cordial relations existed between Discovery Committee members and the Norwegian whaling companies, with the Norwegian marine biologist Johan Hjort, exerting a pivotal role across the scientific, industrial and political spheres of Norway and Great Britain. To the displeasure of Hjort—and the British—the Norwegians failed to form a unified front

against pelagic whaling. However, the main threat to the Discovery Committee came from the colony it was supposed to be assisting to develop.

In 1926, soon after becoming governor of the Falkland Islands (Malvinas), Arnold Hodson, sent a communication to Colonial Secretary Amery complaining about the use of the Research and Development fund. The conflict escalated when, in 1928, Hodson sent a report making serious accusations against the Committee and requesting the centralization of the finances and administration of the expedition under his government.¹⁶² The dispute was resolved in favour of the Committee and even generated questioning of the mental stability and suitability of the governor. Metropolitan science triumphed against local politics, and the Committee was reaffirmed in its character as an expert group against the uninformed opinion of the governor.

Nonetheless, the growth of pelagic whaling undermined the capabilities of the Discovery Committee to aid imperial regulation. Instead, they would have to be content to use the consistently gathered information as the basis for Britain's position in international negotiations. With British authority over the Antarctic whaling being diluted by the development of pelagic whaling, the scientific activities of the Committee were reframed in a politically utilitarian way, emphasizing its symbolic aspect to supporting the acquisition and control of Antarctic territory.

If anything, the *Discovery* expeditions were the first example of Antarctic 'Big Science' by a single nation. With the exception of the Argentine observatory of Laurie Island, the observations in Antarctica until 1925 had been limited to the duration of the expeditions, usually two to three years, and the Laurie Island Observatory hardly satisfied the condition for theoretical modelling required for a wider distribution of data collection. The Argentine project of the Booth (Wandell) Island observatory and Nordenskjöld and Anderssen's project of a permanent station in South Georgia were unsuccessful efforts to complement research in the Antarctic Peninsula in a more sustained fashion. But by 1920, Great Britain had changed its policy of case-specific

¹⁶² An account of the conflict could be found in: Discovery Committee – Governor's Criticism: CO78/182/10. TNA/UK.

financial support to private Antarctic initiatives—which would require the backing of some prominent British learned society—and established a more permanent scheme in which scientific research could be sustained over time. Instead of a single explorer, a society's committee or a joint committee; an ad hoc committee of specialists and administrators was formed in what was a forerunner of the later tendency to introduce scientists to the political decision-making process of regulation (Jasanoff 1987). The British scientists had not only obtained enough influence to affect the political sphere, but also started to participate within the political decision-making process.

But, in 1925, the Argentines were rising their stakes. In February of that year, the relief operation for the Laurie Island base also took materials to establish a radio station on the island, in what would constitute the first permanent radio station in those latitudes (Fontana 2014, 52–55).¹⁶³ The radio station was a natural evolution of the continuous investment of the Argentine government, but also held an important symbolic value. In being in permanent communication with the mainland, the South Orkney station was coupled to the American continent. It was also intended to hold a formal administrative aspect as part of the development of communication and infrastructure and the pursuit of formal recognition from international organisms.

On 23 June, the British delegate in Buenos Aires informed the Argentine government that a license would be granted, but reminded them that an application should have been made beforehand and that an application for a call signal should be made to the British governor in the Falkland Islands.¹⁶⁴ The Argentine government communicated that 'with regard to wireless stations constructed in Argentine territory, the republic would act in accordance with the provisions of the International Radiotelegraphic Conventions...'.¹⁶⁵ In April, the British government replied that, while considering the Argentine note rather unclear, they were unable to convey its statements asserting Argentine sovereignty 'over islands which were undoubtedly

¹⁶³ Fontana contends that it was 'the first radio broadcasting from Antarctica' (Fontana 2014, 52), but in fact Mawson had broadcast from Antarctica several years earlier, during his Australasian Antarctic Expedition.

¹⁶⁴ Argentine Claims, Territorial Claims in the Antarctic, 1 May 1945. Territorial Claims in the Antarctic by Research Department, Foreign Office, May 1st, 1945: A4311/365/8. NAA/AUS.

¹⁶⁵ Argentine Claims, *Op. Cit.* p.56

British on the grounds of discovery and formal taking of possession and to which no Argentine Government appeared ever to have put forward a claim...'. Shortly afterwards, in 1926, a British Imperial Conference analysed the Antarctic question but, surprisingly, the disagreement with Argentina was absent in the consideration of the ad hoc committee.

The 1926 Conference established the equality of status between the different parts of the British Empire, 'united by a common allegiance to the crown, and freely associated as members of the British Commonwealth of Nations'.¹⁶⁶ Additionally, and following the pressure of Australia, the British policy in Antarctica was considered, with special regard to the possibility of making a claim to the 'Australian sector'. In the Conference Summary, it was established that certain areas were British by virtue of discovery, including:¹⁶⁷ the outlying part of 'Coats Land, Enderby Land, Kemp Land, Queen Mary Land, the area west of Adélie Land and called Wilkes Land,¹⁶⁸ King George V Land and Oates Land; and that the governments were studying 'their possible utilisation for further developing exploration and scientific research in the Antarctic regions'.¹⁶⁹

It was a general statement oriented to be established as a legal precedent for the Australian sector, and, in leaving the areas of interest without geographical limits, it was expected to limit the challenges that could come from other nations (Barrett 2009, 363) and maintain a wide freedom of manoeuvre. The reference to developing exploration and scientific research was evidently oriented to justifying the administration and control of whaling activities, following the policy inaugurated with the *Discovery* expeditions.

¹⁶⁶ Imperial Conference, 1926, November 1926 [Document Page 9]. Arctic and Antarctic Regions: 1925-1927: ADM116/2494. TNA/UK.

¹⁶⁷ All names follow the original.

¹⁶⁸ The original says: 'The area which lies to the west of Adélie Land and which on its discovery by the Australian Antarctic Expedition in 1912 was denominated Wilkes Land.' As a way to avoid any ascription of discovery rights to the United States, the expression is particularly careful in attributing the name Wilkes Land to the work done by Mawson and not as a result of Wilkes' voyage.

¹⁶⁹ Imperial Conference, 1926; *Op. Cit.* [Document Page 23].

The issue was carefully weighted as not to prejudice the attitude adopted in regard to the Soviet claims to Arctic islands and the existent British claims in Antarctica. Disregarding Argentine and Chilean objections and the US non-recognition based on the Hughes doctrine, the Conference Committee of Foreign Affairs and Defence considered that only Norway questioned the British claims in Antarctica and only France held a strong claim to Antarctic land based on discovery.¹⁷⁰ It was considered that:

It will therefore be seen that it has been definitely recommended, both for the furtherance of our territorial Antarctic claims outside the Dependencies and for the preservation of our present claims to those areas, no further claims should be made except to known territory, British by discovery.¹⁷¹

The Conference Committee on British Policy in the Antarctic drew up a 'gradual' strategy for bringing Antarctica under British sovereignty, fearing that immediate annexation could lead other powers to claim particular areas within the intended region.¹⁷² Considering all known lands with exception of the FID, the Ross Dependencies and presumably Adélie Land, it devised a strategy based on three stages: i) the 'intimation to the world at large' through the publication of the Conference Summary; ii) the formal taking of possession by an authorized officer; and iii) the issuing of Letters Patent annexing the area and defining its administration (Barrett 2009, 362).¹⁷³ Notably, science had no specified role in the strategy, even though, eventually, it would.

Despite the British neglecting at the Imperial Conference Argentine Antarctic interests, in March 1927 the Argentine radio station in the South Orkneys became operational and begun its service transmitting weather forecasts, distress signals and the communication of the base officials with their families. The acknowledgement of

¹⁷⁰ Actually, it considered that from the 'Miscellaneous' claims, only the USA held some grounds for claims based on discovery.

¹⁷¹ Rough Draft: Annexation of Territories in the Polar Regions – Memorandum Prepared for the Committee of Foreign Policy and Defence, 1926.

¹⁷² Imperial Conference, 1926 – Committee on British Policy in the Antarctic, November 1926. Antarctic Control III March 1924 to Imperial Conference 1926: A981/ANT4/PART3. NAA/AUS.

¹⁷³ Imperial Conference, 1926 – Committee on British Policy in the Antarctic, *Op. Cit.*, p.3.

the situation by the British government led them to conduct enquiries at the International Telegraph Bureau at Berne, which informed them that the notification for the Argentine wireless station at Laurie Island was made two years before and in a way that assumed Argentine sovereignty over the island. Diplomatic interchange followed, including the proposal by the Argentine government to reopen negotiations for the cession of the islands, which was studied but finally rejected by the British government.

Picture 15: Argentine wireless station in Laurie Island (South Orkneys)



Source: Ca. 1928. CN 3/23 [CO 78/179/54]. TNA/UK.

Additionally, also in 1927, the Argentine government informed the International Post Office in Switzerland that the mailing jurisdiction of Argentina extended to South Orkneys and South Georgia (it must be remembered that since 1904 a postmaster was appointed by the Argentine government to Laurie Island). The

communication motivated further protests from the British government. However, the British ambassador in Buenos Aires recommended to the Foreign Office to let the issue cool down to prioritize the good relations with Argentina on which depended important British commercial and financial interests.¹⁷⁴

At the same time, another important challenge to British Antarctic hegemony arose, this time, from Norway. After the Norwegian whaling magnate Lars Christensen, son of Christen Christensen, was informed by the British government in 1926 about the applicability of British whaling regulation in the region between the FID and the Ross Dependencies; he decided to seek new whaling fields that would be not subject to British control. The idea to organize a series of scientific expeditions resulted from the influence of Olaf Holtedahl, Secretary of the Norwegian Geographical Society, who lobbied Christensen in order to secure a relevant scientific component for his expeditions. Christensen was mainly interested in setting the basis for a Norwegian claim to Antarctic territory and the commercial prospects that could accrue from it, but ended up agreeing with Holtedahl's scheme, even when most of the funding would need to come from him. For Christensen, in addition to improving his business core, the expedition would offer the chance to develop his personal notoriety ambition and promote national prestige (Roberts 2011, 69). In this sense, science was a way to articulate economic, personal and political interests.

Having obtained government approval for his plan to claim all Antarctic land between 60° east and 20° west for the King of Norway, Christensen specially built ship, the *Norvegia*, and its crew reached Bouvet Island by the end of 1927, where they conducted scientific observations in the island and the surrounding seas (Barr 1987, 63). After erecting a small depot and naming a small harbour 'New Sandefjord', on 1 December 1927, they took possession of the island in the name of the King of

¹⁷⁴ I am referring to a communication from the British Ambassador Malcom Robertson, who allegedly wrote a missive to the Under-Secretary of the Foreign Office, Ronald Lindsay, in which he defended that good relations with Argentina must be maintained due to the economic interest in that country (Fontana 2014, 55). Robertson played a most important role in organizing a trade mission to South America in 1929 which negotiated a trade agreement with President Yrigoyen. For more about Robertson's role in promoting British interest in Argentina and the role he played in the trade mission see: (Johnson 2018).

Norway. The claim was confirmed by a Royal Decree of 23 January 1928, which motivated a series of diplomatic interchanges between Norway and Great Britain.

With the intent of forestalling potential conflicts, the British took the opportunity to inform the Norwegians about the territories that the 1926 Imperial Conference considered British. The Foreign Office had studied the Bouvet Island situation and thought the British title to the island was weak, so they offered the Norwegians that they would waive their claim in exchange for recognition by Norway of the other claimed territories. The latter partially accepted, refraining from occupying lands within the defined territories (Barrett 2009, 363). For both parties, it was important to maintain cordial relations for political as well as economic reasons.

In the meanwhile, Christensen continued with his plans, and the next season the *Norvegia* managed to land at Peter I Island and hoist the Norwegian flag. Further plans to return to Bouvet Island to install a meteorological station failed after they realised that the conditions were harder than they'd expected.¹⁷⁵ But the annexation of the two distant islands were a noteworthy starting point for Norway in its new territorial policy. Instead of being limited to their economic interests, now they were developing their political objectives through scientific and exploration involvement.

In Australia, the implementation of the plan devised at the Imperial Conference of 1926 was delayed. When the reported results of the Conference reached Australia, its Director of Navigation, John King Davis, proposed that the Australia National Research Council (ANRC) be consulted. Davis was a polar veteran and acquaintance of Mawson. They met during Shackleton's *Nimrod* expedition where he participated as Chief Officer. Later on, Mawson ranked him on the Australasian Antarctic Expedition as second-in-command and captain of the *Aurora*. Since then, he was an active promoter of Australia's Antarctic involvement and one of its most enthusiastic advocates.

The ANRC formed an advisory Antarctic Committee which included important prominent men of science including Mawson and Davis. The said

¹⁷⁵ The hut installed just the previous season had been ripped out by the time they reached the island.

Committee advised, in 1927, that a scientific expedition to the seven locations defined in the Conference Summary be sent to raise the flag (Riffenburgh 2008, 197–204). It was designed as a two-summer campaign and it was considered that the only existing ship suitable for the task was the refitted Scott's *Discovery* and that it would be under the command of Mawson. It was a mainly scientific body recommending a scientific enterprise for political purposes.

Nonetheless, official support didn't come, and Mawson made public declarations with the intention of pushing the government to a more proactive attitude. Notwithstanding Mawson's efforts, the expedition not only failed at first to secure support from the Australian government, but also to be granted with the loan of the *Discovery* by the British government. That situation would change only in late 1928. Despite the Norwegian-British agreement of that year, the announcement of Christensen's next expedition seems to have favoured the official support given to Mawson, who was then ready to start gathering the much needed contributions.

It was only at the beginning of 1929 that the British, Australian, New Zealand Antarctic Research Expedition of 1929-1930 (BANZARE) was announced. As previously, it was Mawson who was behind the effort of gathering the necessary funding and support. Despite having official approval, the support provided by Australia, New Zealand and the United Kingdom ended up being very limited. However, the governments demanded intervention in its organization and planning, even in its smallest details (Riffenburgh 2008, 204). The British supported the expedition by lending the *Discovery* free of charge, while most of the funding was secured from the contributions of two private donors.¹⁷⁶

Despite its alleged scientific goals, the raising of the flag and formally claiming territory was BANZARE's priority, followed by possible economic prospects (Barrett 2009, 364). The news that Christensen's new expedition under the command of Hjalmar Riiser-Larsen was heading to 'Enderby Land' caused Mawson to alter his port of departure to Cape Town from Hobart (Riffenburgh 2008, 206) enabling him

¹⁷⁶ They were Macpherson Robertson, a successful Australian entrepreneur; and William R. Hearst, the American publishing magnate who was also financing Wilkins's 1928-29 air expedition (Riffenburgh 2008, 204).

to begin his work in 'Enderby Land'. Rushing to forestall Norway's activities, the *Discovery* sailed in late 1929, just ten days before Riiser-Larsen. The race for geographical exploration was not any more solely in search of fame and wealth, but an instrument for political purpose, even when governments showed little inclination to entertain the plans of those interested in it.

Picture 16: BANZARE sledge party on a sledge showing the Union Jack and Australian Flags



Source: Three men with British and Australian flags, Ca. 1929-31. State Library Victoria. Australia

Both parties explored the 'Enderby Land' area and claimed it for their respective governments. Riiser-Larsen was unaware of the Norwegian government's commitment not to claim the 1926 Imperial Conference defined areas when he met Mawson on 14 December 1929. On that occasion, he was informed by Mawson that they were on a scientific expedition and that, to avoid any overlapping, he expected that the Norwegians would remain west of 40° of east longitude (Barrett 2009, 364). Despite Mawson's declarations, the Norwegians sailed some 50 miles further east before bearing west, while the *Discovery* went as far west as 45° east longitude before heading north. The alleged scientific nature of both expeditions hampered any further action from being taken.

In the meanwhile, the Discovery Committee continued with a new vessel, constructed for the purpose and christened *Discovery II*. The new, improved vessel, raised the scientific profile of the Committee's activity and was obtained in exchange of the loan of the *Discovery* to the BANZARE. But even though the contrast between the alleged scientist aims of the British activities in Antarctica—including the BANZARE—with the commercially driven exploration of the Norwegian whalers was highlighted, the political objectives of the expeditions became more relevant for the Discovery Committee.¹⁷⁷

Between the BANZARE and the *Discovery* expeditions, the British could flaunt an impressive amount of activity in Antarctica. But besides Norway, other countries would step into Antarctica with a mix of exploration and scientific endeavour that characterized much of the heroic age, with the distinction that it would implement modern means of exploration including the aeroplane and radio communications.

In the early hours of 29 December 1928, Richard Evelyn Byrd and three companions flew over the South Pole in what constituted the most regarded exploration feat since Amundsen had reached the spot in late 1911. Byrd was not the first to fly in Antarctica nor the first to reach the South Pole, but the combination of aeroplane navigation and geographical exploration captured the public's attention.

Some years before, in June 1926, a Chilean born engineer resident in Argentina, Antonio Pauly, had presented a detailed proposal for a transpolar flight to the Argentine Geographical Studies Society (*Sociedad Argentina de Estudios Geográficos*) (Capdevilla 2011, 52). The IGA also gave him its support and took the project—which also insisted on the installation of a scientific station on Booth (Wandell) Island—to the Argentine president, Dr. Marcelo T. de Alvear, who promised to provide all possible assistance (Fontana 2014, 55; Palazzi 2005, 26–27). Eventually, the project obtained the support of the Navy Ministry, but an accident with the assigned aeroplane, a German Dornier Wal; complications with the designation of the

¹⁷⁷ Roberts even describes how the Committee included considerations relative to the armaments to be carried on the *Discovery II* to repeal whaling ships and how its activities started to serve as an intelligence provider of other potential menaces to British hegemony in the Antarctic (Roberts 2011, 45–49)

expedition's pilot; and difficulties in gathering the funds for the expeditions seem to have hampered the concretization of the project.

By the time Pauly presented his proposal, the well-connected US Navy aviator and polar explorer Richard E. Byrd had returned from his air expedition to the North Pole. The accomplishment was put under suspicion but ensured the means that Byrd would need to continue with his exploration projects, launching him into the public eye. Pauly had tried to sell his project to US newspapers and the American Geographical Society (Day 2013, 219) in order to gather funds, and had invited Byrd to join his efforts to fly over the South Pole. However, Byrd declined 'in light of many other important obligations...' (*La Vanguardia* 1926).

Isaiah Bowman, director of the American Geographical Society, had approached Byrd with a view to promoting an air expedition to the South Pole that could render a scientific value. Interested in obtaining the support of the Society and its members, Byrd was open to the proposal and, in July 1927, started to make preparations for his Antarctic expedition with the assistance of Bowman and the Society. By 1928, Byrd was ready to make his Antarctic plans public. Although his proposal was designed to make him the first man to have overflowed both poles, he emphasized that the main objective of the expedition would be scientific research (Day 2013, 218), something that was completely absent from his previous exploration deeds.

The same year, the Australian explorer Hubert Wilkins, who participated in the ill-fated expeditions of Cope and Shackleton and was part of the race to the North Pole by plane, had returned from his transpolar flight over the Arctic. Now with his interests looking south, he developed a plan to depart to the Antarctic in order to locate suitable places for establishing a ring of meteorological stations that could make long-range weather forecast possible, a project put forward at a dinner hosted by the Secretary of the Colonial Office, Leo Amery.¹⁷⁸ However, Wilkins failed to obtain British support and went to the United States, where he obtained the sponsorship of

¹⁷⁸ Lindsay to Chamberlain, 6 June 1928 and Hodson to Amery, 14 February 1929. Antarctic. Sir George Wilkins's South Polar Expedition 'Wilkins – Hearst Antarctic Expedition': A981/ANT44. NAA/AUS.

the press magnate William Randolph Hearst, who intentionally framed the simultaneous expeditions of Byrd and Wilkins as a new race to the pole (Day 2013, 221).

The expeditions had important differences in nature. Byrd's proposal was designed as a fully fledged scientific expedition over two years; involving about fifty men, two ships, three aeroplanes, almost one hundred dogs, and the necessary building materials and provisions for the stay. Wilkins's proposal was for a small-scale expedition of five men and two aircraft whose only objective was the crossing of Antarctica from the Antarctic Peninsula to the Ross Sea through the pole.

As both expeditions were financed by US money, fears arose in Britain that claims that could challenge the pretended British territories in Antarctica could be laid in the name of the US. Nevertheless, it was considered that any official action taken could provoke a reaction from the US government. To avoid that, a confidential request was made to Wilkins, appealing to his patriotic feelings as an Australian. In a letter to Secretary Amery, the authority of the office in the Falklands Islands (Malvinas), John Medlicott Ellis, informed him that Wilkins hadn't received any official recognition of any sort from the US government, and that 'although an internationalist in his ideas at heart he remained a Britisher',¹⁷⁹ so he willingly accepted the request to plant the Union Jack and claim any new land he would fly over between the limits of the FID and the Ross Dependencies. At the same time, Wilkins was informed that such instructions should remain confidential in order to avoid any negative reaction in the United States, either officially or from his benefactors.

The unusual, relatively warm weather forced Wilkins to alter his plans. Instead of a long ice runway, he was forced to build an improvised soil one with the assistance of the whalers at Deception Island. Wilkins's efforts were to be limited to a single flight, and on 19 December he and his pilot, the US Air Force Reserve Lt. Carl Ben Eielson, took off from Deception Island in a southward direction, on what constituted the first Antarctic flight. The alterations reduced the possible range of the

¹⁷⁹ Ellis to Amery, 21 November 1928. Antarctic. Sir George Wilkins's South Polar Expedition 'Wilkins – Hearst Antarctic Expedition': A981/ANT44. NAA/AUS.

aeroplane, and the flight barely covered the end of the Antarctic Peninsula. Without having reached the pole, the expedition had to be content with achieving the first flight in Antarctica and the alleged discovery that the Antarctic Peninsula was in fact a group of islands, something that later proved to be incorrect. At the same time, Wilkins duly reported that, despite carrying the American, Australian and British flags, it was only the latter which was dropped on the limit of their flight in what they believed to be the Antarctic continent.¹⁸⁰ Both planes were left in Deception Island to be used in a future expedition, with Wilkins and his pilot departing to Port Stanley on a whaler that diverted to Deception Island by request of the British governor in the Falkland Islands (Malvinas) before heading on another ship to New York.

Despite being private in nature, Byrd's expedition had the resources to deploy an expedition of massive scale. The support of the American Geographical Society and the National Geographic Society, added to his prominence already gained as an explorer, facilitated him being generously financed by US industrialists and magnates such as Edsel Ford and John D. Rockefeller and the *New York Times* (Rodgers 2002, 158). With such supporters, Byrd's expedition was at that time the 'largest and most expensive expedition ever sent to the Antarctic...' (Day 2013, 225).

Byrd intended that an Antarctic base would be established in the vicinity of Amundsen's 1911 camp, in the region claimed as the Ross Dependency. Unable to obtain any assurance that Byrd's 'purely scientific' expedition would not lay any claim, in September 1928, the British Ambassador in Washington was instructed to call to the attention of the US Government the conclusions presented at the 1926 Imperial Conference summary of proceedings.¹⁸¹ On the note delivered in November of that year to the State Department, it was also suggested that, while in British dependencies, Byrd could count on the assistance of the British government. At that time, the US State Department simply ignored the communication.

¹⁸⁰ Wilkins to the Governor of the Falkland Islands, 2 February 1929. Antarctic. Sir George Wilkins's South Polar Expedition 'Wilkins – Hearst Antarctic Expedition': A981/ANT44. NAA/AUS.

¹⁸¹ Territorial Claims in the Antarctic by Research Department, Foreign Office, 1 May 1945, p. 86: A4311/365/8. NAA/AUS.

Making use of the tradition of early polar exploration, Byrd went to Amundsen looking for information and advice (Rodgers 2002, 159). The assembled expedition departed from New Zealand on 2 December 1928, with two ships that carried three aeroplanes—including a big Ford trimotor—and a massive amount of supplies and equipment. Since the very beginning the expedition displayed its technological advancement, including the use of the recently created sonic depth finder in oceanographic work during the voyage to Antarctica. Just a few weeks after their arrival on 28 December, a small village of huts, hangars and igloos, with tunnels between the buildings erected from the store cages and covered with canvas, and three radio towers with a beacon and the US flag waving in the strong winds had been built: ‘The first city in the Antarctic, complete with its tall radio towers and half-buried houses — Little America!’¹⁸² The *City of New York*, the flagship of the expedition, was ready to depart, leaving behind 42 men, the biggest party ever to winter in Antarctica up until then.

Despite Byrd being based in the claimed Ross Dependency sector, his interest was in the ‘no-mans-land’ sector east of his base, between there and the FID; where he could lay a claim in name of the US without provoking a political conflict. Just a month after their arrival, a flight of recognition sighted what they believed to be a range of mountains; it was named the Rockefeller Range and subsequently altered to the Rockefeller Plateau, after the geologist of the expedition, Laurence Gould, realized that they weren’t actually mountains but relatively low hills (Day 2013, 229). But the range was within the pretended New Zealand sector. The exploration went further east and, in an episode which has been subject to controversy,¹⁸³ Byrd allegedly discovered a mountain peak on a track of new land which he named Marie Byrd Land in honour of his wife.

¹⁸² With Byrd at the South Pole [Beta Film], Reel 3, 00:24:55’. Motion Picture Films, 1926-1935. Collection: Admiral Richard E. Byrd Collection, 1926-1935 [Byrd_Byrd]: 200/74/R3. NARA/USA, Maryland.

¹⁸³ The sighting seems to have been produced by the pilot Dean Smith, who disobeyed Byrd’s orders not to go beyond the Rockefeller range. When Byrd was informed about the sighting, the latter stated that he had seen the peak earlier that day, so the discovery should be attributed to him. On the episode, see: (Rodgers 2002, 162–163)

An accident with one of the aircraft put Gould's exploration party at risk, but after 11 days, a plane found the lost party and rescued them. With the beginning of the winter season, the exploration efforts were suspended, and the expedition concentrated on their scientific observations on weather, magnetism, aurora and radio waves. The expedition obtained significant but 'unspectacular' results (Rodgers 2002, 164) and when the winter was over, Byrd rushed to start his flight for what was his main, although unrecognized, objective: to reach the South Pole by air.

Picture 17: Wilkins party reloading the plane to the William Scoresby at Beascochea Bay, Antarctica.



Source: Wilkins-Hearst Antarctic Expedition 1928-29, Beascochea Bay, 1930. American Geographical Society Library. USA.

By the end of 1929, Wilkins was again in the Antarctic, this time counting on British support through the research ship *William Scoresby*. His objective was not to win the race to the pole, but to travel from the Antarctic Peninsula to the Ross Sea, to discover new land and claim it in the name of Britain. However, once more the weather played against his plans, and Wilkins had to limit his work to short trips, all within the Antarctic Peninsula area. Dropping British flags and documents claiming the surrounding land in the name of Britain at the furthest point of each trip, the expedition did not incorporate any new land to the already claimed British Antarctic territory.

In Little America, Gould and five companions were departing in dog sledges to map and survey the territory between the Queen Maud Mountains and Marie Byrd Land, having made important discoveries along the way, including the finding that the former were of the same geological origin to other mountains located far north, making it part of the same mountain system that extended for more than 1,000 miles.

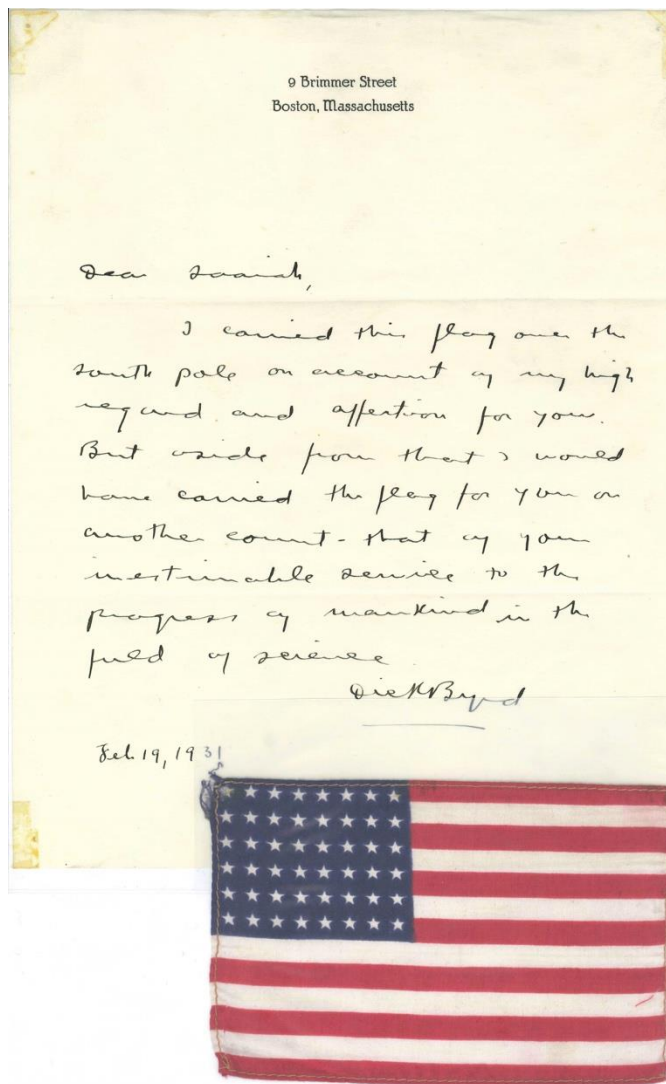
Eleven months after their arrival, the big Ford trimotor, named after an expedition member who had died the previous winter, the *Floyd Bennet*, took off with Byrd, the Norwegian pilot Bernt Balchen, Harold June as co-pilot and radio operator, and Ashley McKinley as aerial photographer, in the direction of the South Pole. After dropping emergency rations and making a bold manoeuvre to gain altitude, the party overflew the south pole in the early hours of 29 December 1929. Then, Byrd open an aircraft hatch and dropped a small American flag anchored to a stone from Bennet's grave and, after a few miles, they turned around and returned to the base. In fact, he took with him a British and Norwegian flag, which he promised to drop jointly with the American one, but as that would reinforce the claims of the British and the Norwegians, he brought the two flags back (Day 2013, 233).

The news was immediately transmitted by radio to the Little America station and from there to the US and the world. US President Hoover personally transmitted his congratulations. On his return to the base, the British and Norwegian flags were hoisted along with the American. The exploit was celebrated around the world and through one of his brother's political allies, Byrd was promoted to the rank of Rear Admiral, an unusual promotion that skipped some of the steps of naval hierarchy and that aroused some objections.

But in order to consolidate his discoveries, Bowman advised Byrd to explore the coastal line connected to the inner discovered region. Thus, in early December, Byrd took off to map the expanse of coast east of his base, registering it all with his aerial camera. Byrd also knew that it was convenient to have a party on the ground, he used the radio to instruct Gould's party to travel east with their sledges up to Marie Byrd Land in order to formally claim the territory. The party did as instructed, which gave Byrd confidence that the territory was secured for the United States.

Nonetheless, Byrd was very cautious about making these developments public, while in the United States discussions about the convenience of advancing a territorial claim were taking place. In the end, the potential political consequences and the economic crisis derived from the stock market crash of late 1929 prevented the US government from taking an affirmative attitude. There were more pressing issues at hand.

Picture 18: Byrd's note to Bowman and the Flag presented by him to the AGS



'Dear Isaiah,

I carried this flag to the south pole on account of my high regard and affection for you. But aside from that I would have carried the flag for you on another count. That of your inestimable service to the progress of mankind in the field of Science'

(Byrd to Bowman, 19 Feb 1931)

Source: US flag Byrd carried with him on his flight over the South Pole and presented to the AGS., 1931. American Geographical Society Library, USA.

After his achievements Byrd was undoubtedly regarded as a national hero of time of peace. His achievement had resumed US Antarctic involvement and located the US among the most prominent Antarctic explorers once again. The continuous

radio communications and the symbolism expressed by the naming of the base and other emblematic acts, such as the dropping of the flag at the South Pole, had created a sense of connection between the Americans and the white continent, despite the several thousands of miles that distanced them from those lands.

The technological display added to the scientific contributions the sense of being on the frontiers of advancement of the civilized world and inaugurated a new era of Antarctic exploration and scientific research. In that sense, it was congruent with the growing importance that the United States was acquiring within the international system and was a showcase for the world of American potential.

But despite the collaboration offered to Wilkins, the assistance given by Amundsen, and the fact that seven of his men—including the pilot that reached the South Pole with him—were Norwegians, the expedition was symptomatic of an era where international cooperation and coordination had fallen well behind the secrecy and competition typical of an era of growing nationalisms and international antagonism. The initiative of science in Antarctic exploration had been undermined by the instrumentalization of science by the state.

3.3 The Polar Divide: The Second International Polar Year and the Limits of Antarctic Cooperation.

In the 1930s the world was debating the forces of internationalism; trying to build a new international order based on the League of Nations, and the growing nationalisms, that were taking shape not only in some European nations but also elsewhere. The economic depression born from the market crash of 1929 and the consequent economic protectionism helped to cement the nationalist discourse and ideology; while the Soviets' relative success in recovering from the effects of their civil war increased fears of the potential expansion of communism.

The anti-communism agenda favoured the rise of fascist totalitarian movements in nations such as Italy, Spain and Germany, seen as the non-communist alternative to the vices of liberalism and republicanism. The relatively rapid success

of those movements in bringing economic prosperity and what was seen as national 'order' inspired similar movements in other latitudes, particularly in Latin America. Nationalist xenophobic—and in some cases, strongly racist—discourse became paramount in populist leaders around the world. The rise of geopolitical thought, particularly the growing influence of Haushofer's German School, introduced a scientific facet to territorial expansionism based on a social Darwinist philosophy.

Social-Darwinism was thus applied to the domestic and international spheres as a justification of extremist ideologies and power politics, leading to pseudo-scientific views that legitimized those positions. The alleged neutrality of science was called into question, introducing political considerations as a basis for sometimes organic, sometimes mystic, interpretations of social and natural phenomena. In contrast, the logic positivism promoted by the so-called Vienna Circle looked to establish a firmly based and cumulative knowledge built on empirical evidence that could differentiate science from metaphysics. For that reason, and because many of the Vienna Circle members were Jews, it is not surprising that the Nazis strongly objected to positivism because of its internationalist views and their rejection of mystical concepts on which Nazi philosophy was based (McGill 1940, 12).

The nature of each discipline sometimes justified the dominant approach the academics adopted. In fields such as geophysics, oceanography and meteorology, the global scope of the dynamics involved and the empirical inductivist nature of the production of knowledge usually oriented to the adoption of internationalist approaches that favoured international cooperation.¹⁸⁴ But in other fields, the specificity of knowledge determined a rather competitive nature to its production. The geography of unexplored regions, for instance, could be fostered progressively by a single nation and displayed as a symbol of its dominance over the territory. Despite its empirical basis, geography was increasingly presented on political terms.¹⁸⁵

¹⁸⁴ This is not to say that competition has been completely absent. The dominance of certain standards—for instance, the use of one form of measures or the other—has usually been related to political considerations. However, the nature of the problems had usually required that at some point, scientists from different nations reached some form of standardization and coordination.

¹⁸⁵ For an analysis on the political importance given by the British to geography and more specifically to maps after the Second World War, see: Dodds 2000.

The political relevance given to discovery as a legal basis for territorial acquisition amplified the divergence in the logic between geographical survey and scientific research, the former based on pushing forward to the unexplored regions; the latter, on the continuous and systematic study of the same feature for establishing its dynamics.

That dilemma between an internationalist cooperative motivation derived from the very nature of some of the scientific knowledge and philosophy, and a nationalist driven impetus resulting from the individual position of scientists and scientific institutions within a particular nation-state—many times including their participation as political actors—would characterize the phase preceding the Second World War. Explorers and scientists—or the common explorer/scientist—would themselves many times debate between their scientific and their nationalist goals, while the revitalised process of institutionalization of international science collided with economic protectionism, ideological closure, growing nationalisms and increasing tensions in the international arena.

In the polar regions, that translated to the overlapping of the common solidarity between fellow explorers and scientists and the development of competitive activities that could buttress commercial interests and their related political aims. That could partly account for why in the Arctic an international coordinated programme of scientific research could be developed, while activities in Antarctica acquired a more competitive slant. Whereas in the Arctic, research was driven by the commercial prospects of a potential air route for transpolar flights—which required a better understanding of atmospheric and meteorological phenomena, in Antarctica it was mainly oriented to the already developed industry of whaling, for which knowledge was a competitive asset for its administration.

In terms of the epistemic communities, the movement towards institutionalization of international scientific organizations did not recover the impulse towards Antarctic exploration that was characteristic of a relevant group of the academic community at the beginning of the century. The emphasis on whaling gave Antarctic research a prominent oceanic and coastal focus, as well as a predominantly politically driven aim.

Therefore, the Second Polar Year was not able to surpass the shortcomings of the first in regard to Antarctic work. Originally intended to gain knowledge of the Arctic, the later realization that Antarctic research would be of fundamental value for the advancement of knowledge would not be sufficient to overcome the limitations imposed by the economic crisis. And probably because of the nationalistic feature that Antarctic activities were adopting, not even the political aims were enough to foster an Antarctic programme.

The second IPY originated from an epistemic need, as was the case with the previous edition of the event and the Antarctic expeditions of the early 20th Century. However, in addition, there were important practical considerations at stake related to direct economic interests. The first IPY was linked to the practical needs of maritime navigation, while the second significantly responded to the advancements and needs of air travel.

The developments in the study of atmospheric phenomena and the increasing use of air transportation induced a better understanding of the dynamics of such geophysical systems. The possibilities for transpolar air routes in the Arctic was something already in the minds of polar men such as Amundsen and Nansen since the late 1910s. The First World War demonstrated not only the importance and potential of air vessels, but also the strategic relevance of meteorology. Slowly but steadily, international cooperation in scientific research overcame the wounds left by the war, and the late 1920s saw the renewal of some of the pre-war efforts, even if under a rather altered logic. The golden age in aviation produced revolutionary advances in the technologies applied to air transportation and the development of radio transmission resulted in the possibility of immediate communication over long distances, while posing new interrogations—in particular related to atmospheric phenomena. Air adventures, such as the crossing of the Atlantic, and reaching the North Pole and the South Pole, renewed the enthusiasm for human exploration and highlighted the human spirit of enterprise and technological development.

Therefore, it is not surprising that the origins of the idea of a new Polar Year came from those interested in the atmospheric phenomenon and air navigation in the Arctic. Even though probably a result of the long process of renewal of international

scientific cooperation and advancement in the geophysical disciplines—which imposed a limit on the possibilities of development without international cooperation; historians identified the origin of the proposal in the suggestion made by Leonid Breitfuss,¹⁸⁶ a Russian born zoologist and polar explorer of German origin who was recently settled in Berlin, to organize a second edition of the event at a meeting of the *Studiengesellschaft zur Erforschung der Arktis mit Luftfahrzeugen* (International Society for the Exploration of the Arctic by means of Aircraft: Aeroarctic). The proposal was seconded by Johannes Georgi, meteorologist of the *Deutsche Seewarte* (German Hydrographic Office), who had encountered a cold air outburst from the Arctic up to the stratosphere on his pilot balloon measurements in Iceland and was interested in gathering synoptic information on the said effect (Barr and Lüdecke 2010, 152).¹⁸⁷ A resolution was therefore passed, which suggested that a repetition of the IPY should be attempted to monitor Arctic conditions, with the exception that airships would be introduced.

Later on, in November 1927, at a meeting of the *Deutsche Seewarte*, Georgi raised the proposal, which obtained general approval. After much interchange in European circles¹⁸⁸ linked to the Aeroarctic; the Commission for the Réseau Mondial and Polar Meteorology; and the IMO; a sub-committee was formed which decided to submit the project at the Sixth International Conference of Directors (of National Weather Services) of the IMO to be held in Copenhagen in September 1929 (Sullivan 1962, chap. 2; *Annals of the International Geophysical Year - Vol. I* 1959, I:211).¹⁸⁹

As with other international scientific institutions, the IMO had suffered the effects of the First World War and was in a process of reviewing its nature and organization. In 1926, the International Meteorological Committee had established a

¹⁸⁶ Some works identify Georgi as the originator of the idea (Sullivan 1962; *Annals of the International Geophysical Year - Vol. I* 1959; Behr et al. 2007). However, it has been well established that Breitfuss proposed the idea before Georgi, and that the latter was present at the event. See: (Elzinga 2009; Barr and Lüdecke 2010; Lüdecke 1995; Summerhayes 2008)

¹⁸⁷ The phenomenon is what today is known as the ‘jet stream’.

¹⁸⁸ For a detailed account of the origins of the second IPY see: (Barr and Lüdecke 2010, chap. 6 Op. Cit.)

¹⁸⁹ Sullivan (1962) locates the date in 1928, but other sources indicate that the meeting took place in 1929 (*Annals of the International Geophysical Year - Vol. I* 1959; Daniel 1973)

permanent Secretariat that didn't have any policy-making function, but was a step in the direction of a more permanent organization (Ashford et al. 1990, 7). The Conference of Directors of 1929 passed a resolution informing the governments of their desire to become an intergovernmental organization, which was consonant with the tendency to organize scientific fields under national umbrellas as described above.

Therefore, the proposal of an international research programme was a renewal of cooperative effort in a field in which collaboration was indispensable for the advancement of knowledge. With representatives from 34 countries—even before it had any official character—the Copenhagen meeting considered the programme for a second International Polar Year and resolved that:

The Conference is of the opinion that magnetic, auroral, and meteorological observations at a network of stations in the arctic and antarctic would materially advance present knowledge and understanding of the magnetic, auroral, and meteorological phenomena not only within the polar regions but in general. The Conference is also of the opinion that this increased knowledge will be of practical application to problems connected with terrestrial magnetism, marine and aerial navigation, wireless telegraphy, and weather-forecasting. (6th International Conference of Directors – IMO, Cited in: Fleming, 1932, p. 131)

By invitation of the IMO, the IUGG endorsed the proposal and resolved to collaborate on the elaboration and execution of the IPY, for which it formed a special commission. In August 1930, the Commission of the Polar Year 1932-1933 decided that the activities would start on 1 August 1932, and extend for 13 months, until the end of August 1933. Through 1930-1931, the second IPY effort obtained the support and participation of other international scientific organizations that expanded the programme and reach of the proposal.

The renewed IPY was an ambitious programme that foresaw the installation of multiple stations, not only in both polar regions, but also at middle and low latitudes. It was based on an approach to geophysical phenomena from a global dynamic perspective¹⁹⁰ and accordingly called for a wide international collaboration.

¹⁹⁰ In the words of a commentator of that time: ‘Tout phénomène géophysique se présente de manière différente aux différents points du Globe terrestre, et son étude, pour être complète, doit être étendue

Additionally, it was expected that: ‘All countries will derive benefit directly or indirectly from the ultimate results which, it has been seen, will be of very great importance for the advancement both of purely scientific and immediately practical value’ (La Cour 1933). Progressively, the programme incorporated oceanographic studies, cloud observations and radiological upper atmosphere experiments, among other developments. To guarantee that the results would be widely exploited it was provided with a committee that would handle the production of publications and their distribution.

Regarding the polar regions, the emphasis was given to the Arctic, as it was also in the first IPY. Nonetheless, some called attention to the relevance of gaining knowledge of the Antarctic for a complete picture of the global phenomenon (Maurain 1935; *I Rapport de La Commission Internationale de L’Année Polaire 1932-1933* 1930; *III Rapport de La Commission Internationale de L’Année Polaire 1932-1933* 1933). In 1930, at the first meeting of the Commission of the Polar Year 1932-1933 in Leningrad (St. Petersburg), a resolution was passed defining that:

The Commission stresses the importance of having a network of stations in the Antarctic as well as in the Arctic and recommends the establishment, by the help of whalers, of stations in the Antarctic, and especially the establishment, of a station as near as possible to the south magnetic pole. (*III Rapport de La Commission Internationale de L’Année Polaire 1932-1933* 1933, 133)

Some collaboration on that regard was committed to, as in the case of the Argentine promise—through Mossman—of incorporating the observatory in South Orkney into the network of stations for the IPY, and the possible reconditioning of the New Year Island Observatory (Isla Observatorio). Chile was approached with a view of installing a station at Eastern Island; Brazil regarding Tristan da Cunha Island; and France in relation to the possible installation of a station in Kerguelen.

One of the advocates of the Antarctic programme, Mr. P. Wehrlé of the French *l’Office National Météorologique* (National Meteorological Office), considered that the Antarctic could be better approached through observations on the polar

à la Terre entière.’ [Every geophysical phenomenon is different in different parts of the Earth, and its study, to be complete, must be extended to the whole earth] (Maurain 1935, 1; *own translation*).

‘front’, that is, through stations on islands or lands located in the sub-Antarctic region. Noting that there was an enormous extent of the globe without suitable places for making observations, he suggested that observations at sea could complement those taken at the permanent stations.

However, the ambitious programme confronted difficulties imposed by the restrictions in financing resulting from the global economic crisis that followed the market crash of 1929. As many countries started to withdraw or reduce their participation due to economic hardship, during the Second Meeting of the Commission of the Polar Year 1932-1933 in Innsbruck in September 1931, the possibility of postponing the IPY was considered. The necessity of further research in the southern regions was acknowledged by some prominent people involved in the organization, but the reduction of the available resources and the higher difficulties implied in Antarctica, ended up impeding the realization of a more complete work (Maurain 1935, 3–4). Nonetheless, due to the fact that much of the funding was already granted—which could be hard to find at a later stage if postponed—and the organizational work was so advanced, it was resolved that a postponement would be counterproductive. The Committee already had guaranteed the minimum of resources for developing a significant programme, and an imperfect and scaled-down IPY was preferred over an uncertain more complete programme (*Annals of the International Geophysical Year - Vol. I* 1959, I:216–217).

A generous grant by the Rockefeller Foundation added \$40,000 to the already committed funds from the IUGG and the International Meteorological Committee,¹⁹¹ with the condition that it be spent in the acquisition of specific equipment to conduct magnetic, electrical and atmospheric observations. That donation allowed the extension of the magnetic and atmospheric programmes of the IPY, but not their expansion to the southern regions. With promises of participation from 44 countries and special committees in 16 of them, the magnetic stations north of the 60° grew from seven to thirty, and on the stipulated date, the IPY was officially inaugurated.

¹⁹¹ Maurain (1935) adds to the list, the aid contributed by the Rask-Oerstedt Fund (Denmark).

In the southern hemisphere, only three new magnetic stations were installed: Elizabethville (Lubumbashi) by Belgium, Cape Town by the University of Cape Town, and Magallanes by the Chilean government. Additional recorders were mounted in existing observatories including Huancayo, Tananarive, Watheroo and Christchurch. Regarding the southern regions, only the Argentine stations in the South Orkneys, Ushuaia and South Georgia, contributed meteorological data (*Annals of the International Geophysical Year - Vol. I* 1959, I:262).

The end of the IPY did not result in the extinction of the Commission, which continued to work under the defined programme. Further grants from international scientific associations and the Rockefeller foundation secured the necessary funds for the publication and distribution of maps, charts and observational data (*Annals of the International Geophysical Year - Vol. I* 1959, I:220). Only the production of a general catalogue proved impracticable due to the difficulties in gathering the necessary funds. However, when the war broke out in late 1939, that task had been only partially completed, and the consequent interruption of normal international cooperation hampered any advancement.

In 1946, once the war was over, the IMO dissolved all its permanent commissions, but decided to appoint a temporary Liquidating Commission to finish the works of the second IPY, which they accomplished on 31 December 1950. In the end, the reports were broken down on a national basis: The US published 113 works, Germany 97, the Soviet Union 53 and the UK 39. The information gathered was substantial and of great importance for the advancement of many fields of science. The knowledge gained in upper atmosphere physics and their effects on telecommunications alone was worth hundreds of millions of dollars (Sullivan 1962, 229) and the advancements in meteorology improved weather forecasting capabilities (Behr et al. 2007, 3). In the words of Laursen,

The Second International Polar Year stands out as a brilliant example of fruitful international collaboration for the benefit of science and for the honour, not only of those who organized it, but also of those who through active collaboration played their great part in its successful accomplishment. (*Annals of the International Geophysical Year - Vol. I* 1959, I:222)

Therefore, the Second Polar Year was successful in many ways (Barr and Lüdecke 2010, 168). Despite the economic crisis and the interruption of the war, the event managed to produce and publish substantive results that ensued noteworthy advancements in many fields, including meteorology, magnetism and atmospheric studies. As with the previous IPY, the event promoted international cooperation and coordination in scientific research. Also, being promoted by the IMO, the IPY benefitted from the growing number of international scientific organizations that secured the necessary funding despite the difficulties of the economic context.

However, also as in the first IPY, Antarctica was relegated. The necessity of information regarding the south polar region in the alleged global perspective of meteorological and geophysical phenomena was not sufficient to guarantee the realization of a more ambitious Antarctic programme. The stress on the practical benefit that would accrue from the IPY (Elzinga 2009) could account for limiting the financial support for southern stations, as they were not involved in the proposed schemes of transpolar routes. Nonetheless, it is rather intriguing why countries that were involved in political disagreements regarding the Antarctic didn't seize the opportunity for marking their presence through Antarctic science.¹⁹² It is possible that the established link between Antarctic science and whaling at that time played a role in that, preventing a theoretical approach more strictly limited to the geophysical dimensions being given to Antarctic activities.¹⁹³

¹⁹² Among the research I haven't found any indication that such considerations had been part either in the planning or the execution of the second IPY, nor in the assessment of Antarctic expeditions during those years.

¹⁹³ In the case of the UK, it is possible that the geophysical theoretical focus had played a role in the selection of the Royal Society and the Royal Society of Edinburgh as the institutions in charge of the British programme, that probably had some effect on the lack of Antarctic proposals by the UK. However, it seems not sufficient to account for that absence. The RGS participated in the organization of the IPY and was represented in some opportunities by the Antarctic veteran Bernacchi.

3.4 Naming the Territory: The Race for Coastal Exploration, Geographical Naming and Territorial Claiming.

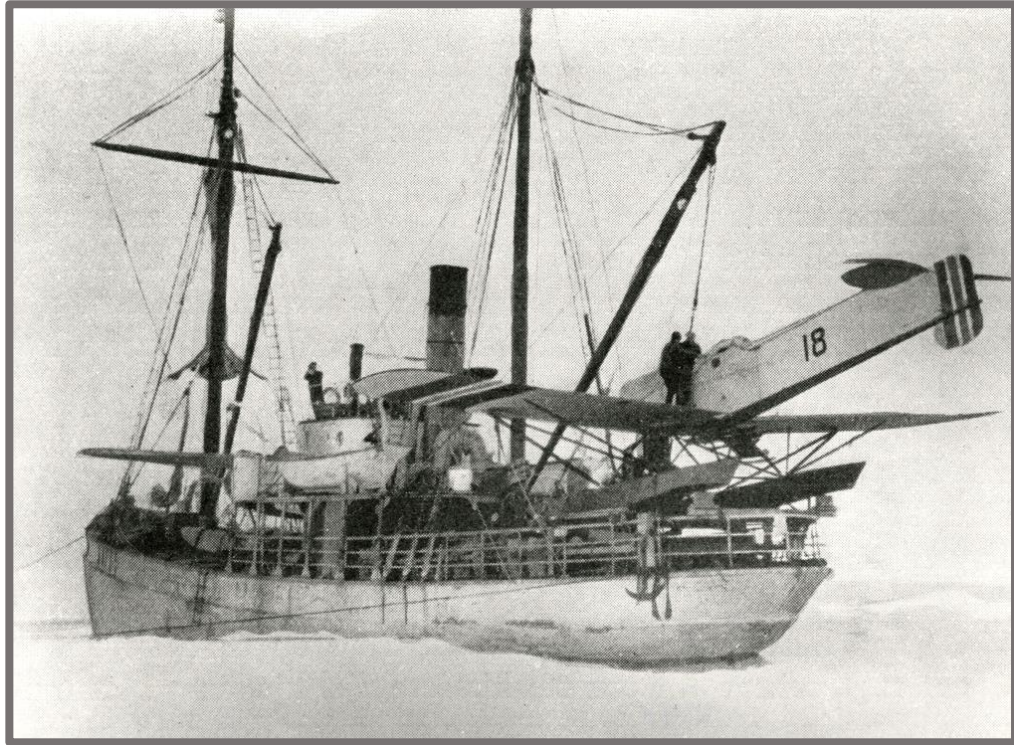
The economic depression of the 1930s not only affected the plans of the second IPY in the Antarctic, but also all the other initiatives in the southern regions. After two successive unsuccessful attempts, Wilkins withdrew from air polar exploration, while Byrd was unable to obtain the necessary funds for his intended second expedition, (Day 2013, 253) even when his achievements had secured public favour and fame. Therefore, during the first years of the 1930s—while the IPY 1932-1933 was being organized—operations in Antarctica were limited to the continuous operation of the Laurie Island station by the Argentines, the continuation of the *Discovery* expeditions, the Norwegian Lars Christensen's expeditions and Douglas Mawson's BANZARE expedition.

The availability of his whaling fleet gave Christensen an advantage in relation to Mawson's logistic capabilities. With the option of re-storing from ships distributed along the continent, the possibility of coming close to the shore resulting from the greater mobility of the whaling catchers, and the ability to deploy aircraft from the factory ships, Christensen had at his disposal a great network of resources. That made it possible that for the *Norvegia's* fourth cruise in 1930-1931, Christensen established the circumnavigation of Antarctica as its main objective. To that end, the *Norvegia's* programme added research regarding numbers and distribution of whales, hydrographic observations and the search for alleged sighted islands which actual existence was doubted (Isachsen 1932, 83).

The expedition was put under the leadership of the experienced polar explorer Gunnar Isachsen, who met the expedition in Cape Town in September 1930. The *Norvegia* departed from Cape Town on 4 October and, after crossing Bouvet Island and coaling from other vessels on the way, they headed in an easterly direction and went to the task of finding the Truls, Nimrod and Dougherty Islands. The search proved unfruitful, showing that the allegedly sighted islands could be drifting icebergs (Isachsen 1932, 87–90). Afterwards, an attempt was made to establish an additional hut on Peter I Island, but they were impeded by the ice conditions. Hence, in order

to accomplish their main goal of circumnavigating the continent and keep the planned encounter with Christensen, who was on board of the *Tornshavn*, the construction was cancelled, and the *Norvegia* proceeded ahead.

Picture 19: The Norvegia in the ice outside Queen Maud Land



Source: Norvegia, 1931. Norks Polarinstitut. Norway)

By the end of January, Isachsen had completed the circumnavigation, taking only 102 days to complete it. Continuing in a south-eastward direction, the expedition finally encountered the *Tornshavn* at the beginning of February. After Isachsen handed over the control of the *Norvegia* to Riiser-Larsen and a small plane was transferred to the vessel, Christensen and Isachsen departed on the *Tornshavn* to Cape Town with a cargo of whale oil (Day 2013, 254), while the *Norvegia* continued its work of exploration in the area that the British hadn't included in their report of the 1926 Imperial Conference.

Once the *Norvegia* had found a suitable place from which the hydroplane could take off, Riiser-Larsen and the *Norvegia's* captain, Nils Larsen, flew into the interior of the continent and saw what they positively identified as land. On their second flight on 17 February 1931, Riiser-Larsen dropped a Norwegian flag and documents taking

possession of the land in the name of Norway. Riiser-Larsen radioed then to the King of Norway, Haakon VII, asking his permission to name the land on behalf of his Majesty's granddaughter, Princess Ragnhild, to which the King acquiesced. Even when holding a doubtful international legitimacy, the practice of claiming lands only sighted by plane was introduced by Mawson and Byrd, and the Norwegians felt that they would be left behind if they did not follow suit. The aeroplane not only introduced new possibilities of exploration, but also implied a much wider range of action, including the possibility of traversing land that was almost unreachable from the sea.

On 22 February, the expedition encountered the floating factory *Antarctic*, which communicated to Riiser-Larsen that it had been surveying 'Queen Maud Land' and 'Enderby Land'. By invitation of the Master of the *Antarctic*, Otto Borchgrevink,¹⁹⁴ Riiser-Larsen came on board and interchanged information about the recently charted territory. As with Riiser-Larsen, Borchgrevink's expedition was one of the numerous Norwegian whalers exploring Antarctic lands.¹⁹⁵ The same year, Captain Klarius Mikkelsen, commander of the whale catcher *Torhyn*, had also been exploring an extensive tract of land between 63 and 71° east approximately (Headland and Roberts 1989, 228; Isachsen 1932, 94), having landed at 68° east, named several geographical features in the region with Norwegian names and designating the whole region just discovered as Lars Christensen Land.

The return of the *Norvegia* to Sandefjord, after its four-year expedition, was received with plaudits and honours. *Norvegia's* Captain Nils Larsen was awarded with the medal of the Norwegian Geographical Society while Christensen received the honour of being made commander second class of the Order of St Olav. Additionally, many Antarctic features had received Norwegian names. Furthermore, Norwegian achievements were not limited to geographic exploration and political symbolism, as the expeditions also resulted in important meteorological and oceanographic research that was published under the auspices of Christensen. Hydrographical charts

¹⁹⁴ Should not to be confused with Carsten E. Borchgrevink, leader of the Southern Cross expedition.

¹⁹⁵ A list of expeditions can be consulted in: Headland and Roberts 1989, 288.

incorporating all new developments were published by the Whaler's Mutual Insurance Association, which compared very favourably against the British charts of that time.

But Norwegian scientific achievements were not directed to the advancement of scientific disciplines for their own sake. They were much more a result of practical motives related to the whaling industry, such as navigation safety and identification of patterns that could assist whale catching. As well, the potential political consequences of whalers' exploration actions were oriented to strengthening the position of the whalers vis-à-vis the British government in negotiating the regulation of the activity. In 1930, pelagic whaling reached a record in terms of the number of vessels and catches, this made the British press the other governments involved in the industry to regulate the activity. The ability to operate on the high seas without the need of shore stations left the whalers out of the existent British regulation on the region and without need to debate its legitimacy.

In that regard, Mawson's BANZARE was not so different. Despite having a vessel specially adapted to oceanographic and other scientific work, the political aims of the enterprise limited their scientific possibilities. In Mawson's view, the reluctance of the British government to advance a claim on behalf of Australia allowed the French to claim Adélie Land and was allowing other parties, specifically the Norwegians, to advance over the territory he longed for his country. Time was pressing, which was not compatible with more detailed scientific work.

BANZARE's previous expedition had to interrupt its work due to the shortage of coal. The decision made by the Master of the *Discovery*, Captain Davis, led to a crisis with Mawson, who was convinced that they should continue their work. Despite Mawson's insistence, Davis imposed his position as captain. A further request by Mawson to explore the coast of 'Queen Mary Land' on the way back was also rejected by Davis due to the high risks involved. However, despite Davis's success in imposing his views, the critical situation between him and the expedition leader led to his resignation the following season. Captain MacKenzie was named Master of the ship and second in command of the expedition.

Without funding for a second expedition, the Australian government considered the desirability of investing in such a venture, deciding in the affirmative.¹⁹⁶ Mawson's achievements, his description of a fertile whaling field off the coast of Enderby Land and the Norwegian advancements on part of the coveted region, accounted for the decision to complete the expedition's objectives. In his report, Mawson considered that the discovery of the alleged whaling fishery 'is worth far more than all the cost of our exploring Expedition'.¹⁹⁷ But as he also reported, Christensen's *Norvegia* had simultaneously located the same fishery.

Mawson's second BANZARE voyage's original instructions were to proceed to the Balleny Islands after which they would head west to Queen Mary Land and eventually to McRobertson Land. He was instructed to plant the flag and read an annexing proclamation in all lands not claimed by other countries and to carry out scientific work, including all that could assist the future economic development of the fisheries.¹⁹⁸

The *Discovery* left Hobart in late November 1930. As suggested by a member of a Committee involved in the organization of the second IPY,¹⁹⁹ Mawson headed first to Macquaire Island in order to ascertain the state of the hut and meteorological station left on his previous Australasian Antarctic Expedition; it was in a deplorable state.²⁰⁰ From there, the *Discovery* continued its journey to the Balleny Islands where they were to restock their coal stores from the *Sir Clark Ross* whaling factory.

The ensuing journey was characterized by numerous difficulties, including almost colliding with a huge iceberg. Eventually, the expedition managed to reach

¹⁹⁶ Scullin [Prime Minister of Australia] to the Prime Minister of New Zealand, 10th May 1930. BANZARE – Report by Sir Douglas Mawson: A461/A413/4. NAA/AUS.

¹⁹⁷ Antarctic Expedition – Report by Sir Douglas Mawson on the work of the Expedition in 1929-1930, 6 May 1930. BANZARE – Report by Sir Douglas Mawson: A461/A413/4. NAA/AUS.

¹⁹⁸ To Sir Douglas Mawson... by the Prime Minister [Sailing Instructions]. Expeditions BANZARE – Minutes of Meetings of Committee: A461/E413/1. NAA/AUS.

¹⁹⁹ BANZARE – 'Discovery' Expedition, p.3: Second Polar Year 1932-1933. BANZARE Committee. Minutes of Meeting Held 9th August, 1930. Expeditions BANZARE – Minutes of Meetings of Committee: A461/E413/1. NAA/AUS.

²⁰⁰ Antarctic Expedition – Report by Sir Douglas Mawson... A461/A413/4; *Op Cit.*

Mawson's old base at Cape Denison, which was still standing but filled with snow and with its roof almost collapsed. At the base they took magnetic readings and measured the movement of ice, staying for two days in the old hut. More significant, though, was Mawson's long-awaited official claim of land, which had been previously denied him in 1913.

The news of the Norwegians heading east made Mawson hurry his departure. Following on a westerly direction, Mawson used his plane to survey the surrounding areas and, in February 1931, land was sighted, and a flag was dropped to claim it in the name of the King. More claiming ceremonies were performed, but the conditions for landing were harder than expected and the parties experienced severe difficulties in going ashore. Finally, on 18 February 1931, with the coal getting short for their return, the BANZARE attempted a last landing on the westernmost point of its journey, just at the east edge of Enderby Land. After numerous hardships, the party finally landed and performed the ceremony, in the belief that their actions had definitively solidified Australia's rights to the Antarctic sector lying below its territory.

On its public report to the press, Mawson stressed the BANZARE's scientific achievements, downplaying the political relevance attributed by the Australian government, and specially by him, to the expedition. Only occasionally, Mawson made some subtle mention of the claiming ceremonies. However, the public appeal of science was much less than that of adventure, and Mawson's report of the expedition was considered confidential. On the rapidly expanding whaling fields of Antarctica, scientific information was no longer a contribution to a common human enterprise, but a competitive asset. Mawson's multi-volume publication of his scientific results took many years to be published due to lack of funds; while the state-sponsored expedition's film *Siege of the South* celebrated the British spirit of exploration. In the words of David Day, 'Territorial acquisition rather than science was the prevailing theme...' (Day 2013, 269).

The years of the economic depression resulted in a decline in whaling activities. The impressive intensification in the number of whales caught and the efficiency in the production of whale oil brought by pelagic whaling saturated the

market that was in a global state of economic stagnation. By 1931, the excess of whale oil stock led many whaling companies to suspend their activities for the season (Hart 2001, 274). The decision was not motivated by conservationist aims, but merely to induce an equilibrium between supply and demand in the market.

With whaling in decline and the global economy in depression, there was little incentive for Antarctic activities. As previously seen, not even the second IPY was able to gather momentum to find support for Antarctic activities. Only state-organized activities maintained their continuity, being limited to the Argentine observatory in Laurie Island and the *Discovery* expeditions. As seen, the Argentine observatory participated in the IPY programme, but the idea of a more expanded network of meteorological and magnetic stations didn't eventuate.

The consensus reached in the first decade of the century over the relevance of Antarctic exploration for the advancement of geophysical and meteorological science was no longer at the forefront of the agenda of the influential circles of scientists and scientific institutions. There was no equivalent to the 6th and 7th International Geographical Congresses as articulator for support of Antarctic endeavour, while the practical view adopted by the promotion of the existent scientific programmes in Antarctica determined a focus on oceanographic and geographical work. Furthermore, the growing importance given to the concept of the sector principle for political purposes led to coastal work having the main relevance, leaving the interior of the continent to relative oblivion. With the pole already conquered by land and air, there was little to address in the way of exploration achievements that could ensure publicity and fame, and the harsh frozen inner lands of the continent offered poor prospects and little rewards.

At the same time, the political divide introduced with the FID and the British hegemonic project in Antarctica was interposed before the idea of Antarctica as a region in its own right. The perception of Antarctica as a natural space was overlapped by an approach that emphasized its division following historical and political legal principles, making it plausible of appropriation and integrating it in the usual conceptions of sovereignty and influence zones.

Science and geographical knowledge were instrumentalized as a way to support political claims and not necessarily to address relevant scientific questions. Geographical problems were considered in the light of their political consequences, for which the continentalism or insularity of the region was seen as one of the last important geographical queries to be studied, which explains why it was the next problem to be addressed. The issue was relevant because it was attached to the potential extension of the claims to discovered land. Despite the fact that the sector principle extended the claims to all lands within a geographically defined sector, the lack of universal acceptance of that principle—most notably by Norway—made the issue relevant.

In the US, since his return, Byrd was looking for funding for a second expedition. But despite the recognition of his achievements, he found it impossible to gain enough financial support when all the efforts were directed to the more immediate objective of economic recovery (Day 2013, 280). The conquest of the pole by air left him with little to achieve in the way of deeds of exploration that could gain public acclamation, while science was not an issue favoured by the American public and the US government was little inclined to favour any territorial claim—something that would justify geographical exploration.

After a brief time in domestic politics, Byrd resumed his efforts to gather resources that could allow him to attempt a second Antarctic expedition. Despite the unfavourable economic background, in February 1931, Byrd apparently obtained the support of his old benefactor Edsel Ford, which allowed him to start preparing for his next expedition. As previously, Byrd looked for the support and advice of the director of the American Geographical Society, Isaiah Bowman, who assured him his support and advised him to concentrate on consolidating the research started during his previous expedition.

However, Byrd was interested in achieving some feat that could publicize his efforts and capture the public's attention. For that, he devised an experiment that would not only provide invaluable scientific data related to the meteorological conditions present at the interior of the continent, but also ensure him the coveted feat of exploration. Emulating Henry 'Gino' Watkins's lonely operation of an

advanced base in the Arctic on his Greenland expedition of 1931, Byrd offered to confine himself on a base in the 'Queen Maud Mountains' where he would spend a whole winter in total isolation making scientific observations.

Byrd's proposed aims were far from what Bowman had recommended (Day 2013, 284–285). The geographer was more interested in complementing and perfecting the work undertaken on the previous expedition, for which the exploration of the coast and interior of 'Marie Byrd Land' was necessary, including the implementation of better scientific techniques. The first expedition had produced impressive images from aerial photography, but the lack of land control points made them of little use in actual mapping. However, Bowman's interest in improved scientific work was not purely geographical. As he saw it, the exploration of the coast to the east and an accurate charting of the region were fundamental for bolstering a US claim to the region.

By that same time, the British Polar Committee was considering a proposal by the young polar explorer Henry 'Gino' Watkins to make a trans-continental crossing of Antarctica from the Weddell to the Ross Sea, repeating the intent of Filchner and Shackleton²⁰¹ but avoiding the South Pole as it would mean that 'the last half of the distance would follow the known route already covered by Scott, Shackleton, Amundsen and Byrd'.²⁰² Watkins intended to carry about 120-150 dogs to cross the continent by sledge, using aeroplanes and motor sledges for logistical purposes.²⁰³ The programme was endorsed by the Council of the RGS and Cambridge University's Scott Polar Research Institute (SPRI) in the expectation that their seal would favour its funding. As with Byrd, Watkins was interested in determining if there was a connection between the Weddell and the Ross Sea, that is, if Antarctica formed a single continent or two large continental masses. In a letter to the Secretary of the Polar Committee, Mr. B. A. Clutterbuck, the director of the SPRI, Frank Debenham,

²⁰¹ In his proposal Watkins describe as one of its objectives: 'to secure for the British Flag the honour of being the first carried across the South Polar Continent'. See: Project for a British Antarctic Expedition, 7 January 1932. Watkins Antarctic Expedition: DO35/178/5. TNA/UK.

²⁰² Copy of Minutes of 34th Meeting of the Polar Committee, 16 February 1932. Watkins Antarctic Expedition: DO35/178/5. TNA/UK.

²⁰³ There are discrepancies in the documentations about the numbers of dogs to be used.

assessed that Watkins's proposal held an important political value, in the sense that the British activities within the Antarctic Circle on the FIDS were limited, particularly when compared with activities undertaken there by other nations. Furthermore, for Debenham, being that Britain was the only power with an established claim within the Antarctic Circle, it should feel impelled to solve the question of whether Antarctica was a single continent or two masses connected by a vast strait.²⁰⁴

Although the Committee considered the proposal in a favourable view, it was thought that, despite Debenham's views, there were no territorial aspects attached to the expedition due to the fact that, in the Committee's view, the basis for British territorial claims in both dependencies were well established. However, the Committee resolved that, in order to establish the 'British character' of the expedition, it was desirable that the *Discovery* be used, instead of the option of a smaller Norwegian whaler. The *Discovery* would increase the chances of success for the expedition and would improve the profile of Watkins's expedition for raising the necessary funds.

Eventually the Committee was able to offer the loan of the *Discovery* with no charge for two months, but despite the modesty of the scheme proposed—it would be an entirely volunteer expedition—Watkins was unable to gather more than 'a few hundred pounds' so he declined the offer and suspended his plans.²⁰⁵ The demise of his Antarctic plans led him to his final small-scale East Greenland Arctic expedition that would call his life when he disappeared from his kayak in August 1932. The man who succeeded him in commanding the expedition, the young Australian explorer and pilot John Rymill, would resume his efforts once he returned from the Arctic.

While Watkins was looking for supporters in Britain, in the US another competitor to Byrd's upcoming expedition appeared. Also with the support of Bowman, in May 1931, the wealthy Arctic explorer Lincoln Ellsworth—who had participated with Riiser-Larsen in Amundsen's efforts of Arctic transpolar flight in 1925—had approached Christensen looking to jointly organize an American-

²⁰⁴ Copy of letter from the Director, Scott Polar Research Institute, Cambridge, to the Secretary, 'Discovery' Committee, 28 January 1932. Watkins Antarctic Expedition: DO35/178/5. TNA/UK.

²⁰⁵ Strikethrough paragraph in: Debenham to the President of the RGS, 29 November 1933. British Graham Land Expedition 1934-1937: RGS/CB9/22. RGS-A/UK.

Norwegian expedition. Ellsworth was willing to charter Christensen's *Norvegia* and hire Riiser-Larsen or Lützow-Holm as his pilot (Day 2013, 290). But the decline in whaling activities meant that the whalers would not go to Antarctica and there were no certainties regarding when the level of activity would recover.

Being a wealthy man, Ellsworth didn't need to depend on gathering support to fund the expedition and, in April 1932, he was able to announce his plan for a transpolar flight across Antarctica, covering more than 2,900 miles. With the assistance of Hebert Wilkins, he managed to find a Norwegian small wooden fishing vessel which he christened *Wyatt Earp* and he commissioned a low-wing monoplane aircraft from the American manufacturer Northrop which he named the *Polar Star*²⁰⁶ with Bernt Balchen, Byrd's former pilot, at the commands.

Despite the support of the American Geographical Society, the expedition was fundamentally an adventurous enterprise designed to gain publicity while achieving geographical exploration. Instead of rigorous systematic survey and research on the already known but ill-defined regions, the expedition was intended to explore the vast unknown interior of the continent. Nevertheless, the implementation of new technological developments in aerial photography would allow the expedition to obtain significant results in terms of geographical knowledge.

In the meanwhile, Christensen had resumed his activities of exploration between Queen Maud and Lars Christensen Land. However, the ice conditions of that season prevented Riiser-Larsen from reaching the coast. Eventually, they managed to land over a low ice barrier that broke off in a few days, leaving the party drifting for four days until they were rescued.²⁰⁷

At the beginning of 1933, the British government finally advanced a formal claim that put a huge sector of the continent under the administration of the Commonwealth of Australia. In January 1932, after the conclusion of the second

²⁰⁶ The *Polar Star* was a Northrop 2B Gamma, being the prototype of a following series of full-metal, low-winged, high speed monoplanes. The series was designed to be used for setting speed records.

²⁰⁷ Statement Concerning Norwegian Interest in the Antarctic, Undated [Circa 1938]. Antarctic Ellsworth's Flight Enderbyland – Ross Sea: A981/ANT22. NAA/AUS.

season of Mawson's BANZARE expedition, the government of Australia considered that the conditions established at the 1926 Imperial Conference had been met, and that it was time that the legal form to be adopted for proclaiming sovereignty over the pretended sector be discussed in London.²⁰⁸ The British government concurred with the convenience of issuing an Order in Council and on 7 of February 1933, 'all the islands and territories other than Adelie Land which are situated south of the 60th degree of south latitude and lying between the 160th degree of east longitude and the 45th degree of east longitude...' were placed under the authority of Australia. Intentionally, the French claimed territory of Adélie Land was excluded but not defined; and it was expected that Norway, without explicitly recognizing the British claim, would not oppose it if not formally approached and if the use of the term 'sector' could be avoided (See *Figure 7*).²⁰⁹ After 20 years of efforts, Mawson's initiative was finally a reality.

Nonetheless, the British formal claim of the 'Australian Quadrant' did not prevent the continuity of Christensen's Norwegian expedition to the west border of the defined area. In late 1933 Christensen's fleet sailed again to the Antarctic region to make a long voyage along Wilkes Land, where the Norwegian took observations that allowed him to correct some charts and discovered previously unseen land that was named 'Princess Astrid Land'.²¹⁰

While Australia was adopting the domestic measures necessary to implement the administration of the newly assigned territory, New Zealand was viewing with some concern the upcoming expeditions of Byrd and Ellsworth. Despite both explorers having manifested their interests as exploratory and scientific, the fact that they would be basing their operations on Byrd's former base of Little America in the Ross Sea was considered a challenge to British sovereignty in the region, particularly

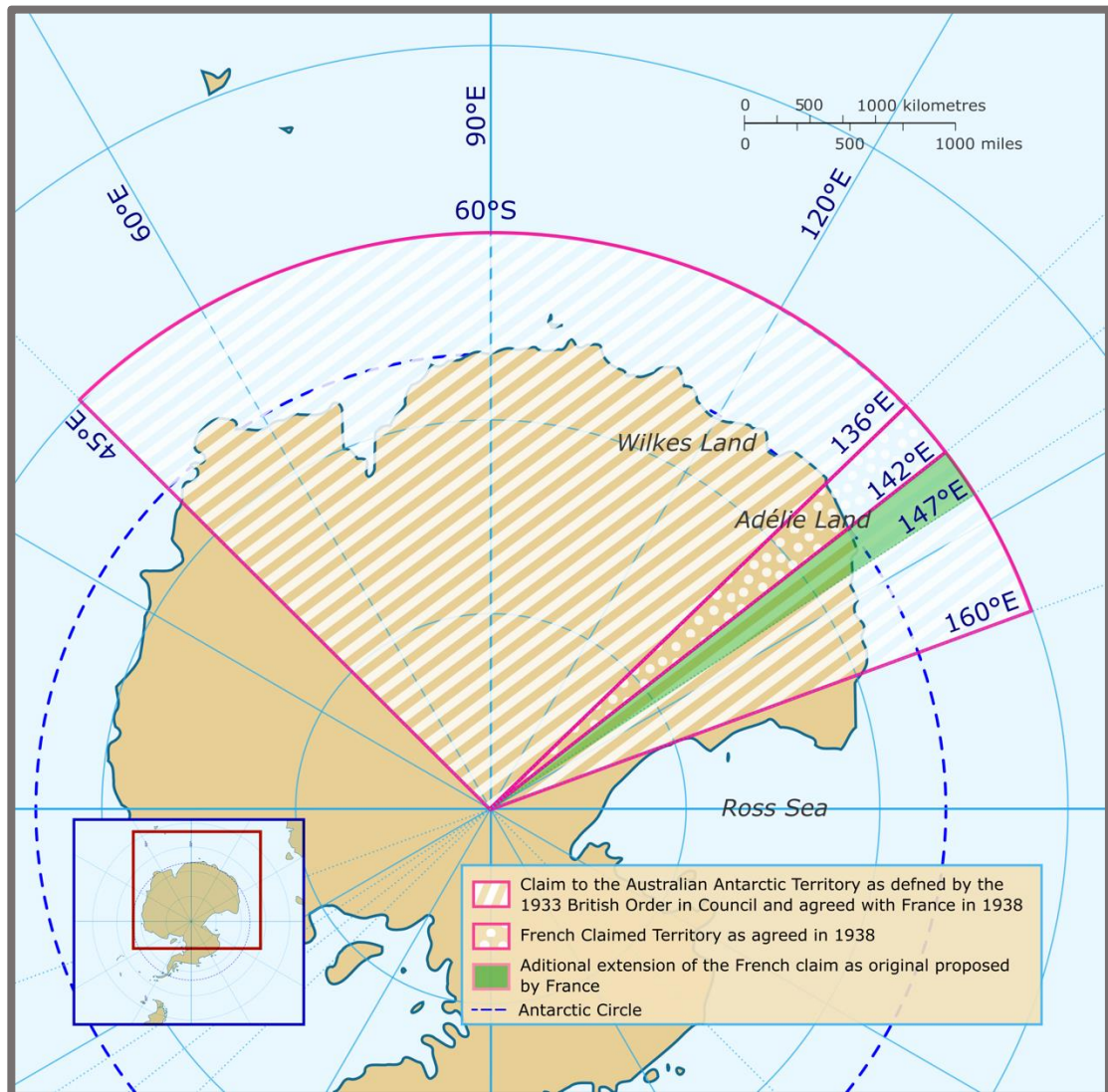
²⁰⁸ Secretary of the Department of Foreign Affairs to the Secretary of the Attorney-General's Department, 28 January 1932. Australian Antarctic Territory Part 1: A432/1953/3228 Part 1. NAA/AUS.

²⁰⁹ Agenda No. 404 for Cabinet: Antarctic: Control of Australian Sector, 6th December 1932. Australian Antarctic Territory Part 1: A432/1953/3228 Part 1. NAA/AUS

²¹⁰ Statement Concerning Norwegian Interest in the Antarctic, Undated; *Op. Cit.*

as there was no official request for permission. Of special concern was the publicized establishment of a post office on Little America, including the official designation of a postmaster for the spot, what gave an official aspect to the enterprise.

Figure 8: Sketch Map of Australian and French Claims as Agreed in 1938



Source: Elaborated by the author.

The policy was consistent with the, by then already known, US position of non-recognition of claims in Antarctica—the so-called Hughes doctrine; but the New Zealand government considered it necessary to restate their position, offering Byrd their assistance ‘while in the territory under their administration’. As well, with the objective of giving some formality to their position, the British Ambassador in Washington D.C. delivered a communication to the State Department, where it was

noted that some press reports were talking about the planned establishment of the US post office in Little America, stating that:

if a United States post office were to be officially established in the dependency, or if the United States Government were to sanction the use of United States postage stamps there without permission from the sovereign Power, such acts could not be regarded otherwise than as infringing the British sovereignty and New Zealand administrative rights in the dependency... (Document 759, Churchill et al. 1951, 1011)²¹¹

In addition, a complaint about the installation of a wireless station and the use of aeroplanes without the required permissions from the New Zealand government was advanced. Notwithstanding, the possibility of a diplomatic conflict regarding this was avoided by concluding that the offer of assistance made to Byrd could be considered to include the installation of the wireless station and the operation of the aeroplanes; but advising to consider the issue on any future expeditions, under official US auspices, operating ‘under New Zealand administration’, including the upcoming Ellsworth expedition. The US State Department limited their answer to transmitting the government’s appreciation for the assistance offered to Adm. Byrd; considering that the time was not propitious to enter into discussions regarding those ‘interesting questions’ and reserving any rights that the US or its citizens could have.²¹²

Ellsworth’s expedition reached the Bay of Whales in the expedition ship, the *Wyatt Earp*, in late 1933. They landed the *Polar Star* over the ice shelf near the ship, but during the night, the shelf broke away, drifting, and the plane had to be rescued with much effort and causing significant damage to the wing and skis, as well as to the ship. With the plane broken beyond the possibility of repairing it on the spot, Ellsworth decided to retreat in order to take the aeroplane to its factory in California, which meant that his project would have to wait until the following season.

²¹¹ Also in: Lindsay to Hull, 29 January 1934. Antarctic. Sir George Wilkins’s South Polar Expedition ‘Willkins – Hearst Antarctic Expedition’: A981/ANT44. NAA/AUS.

²¹² See: Document 760 Churchill et al. 1951, 1012 and Moore to Lindsay, 24 February 1934. Antarctic. Sir George Wilkins’s South Polar Expedition ‘Willkins – Hearst Antarctic Expedition’: A981/ANT44. NAA/AUS.

Byrd's expedition arrived at Little America in January 1934. It was an impressive deployment of heavy equipment, formed by two ships, three aircraft, tractors, snowmobiles, snow-adapted trucks, sledges and dogs; and it even included an early version of helicopter. His team was immediately put to the task of recovering and adapting the installations, building new huts, unloading the stores and killing some seals to guarantee provisions for the more than 50 men that would stay on the base. Instead of the original project of installing his advance base at the base of the Queen Maud Range, some 500 miles from Little America, Byrd had to settle with a spot some 100 miles south of the base.

With the winter season approaching, Byrd was left alone to spend the next five months of darkness and extreme cold in the confinement and relative isolation of the little hut. There, he put himself to the task of taking continuous meteorological observations, which he expected would be of use in establishing some relevant meteorological dynamics that could help to develop a better understanding of the southern climate and improve the capabilities of weather predictions in the southern hemisphere. It was the scientific justification for a personal challenge that had been strongly criticised as fruitless. Continuous radio Morse communications with the base allowed Byrd to break his psychological isolation and report on his physical state and the advancement of his observations.

However, after a couple of months, Byrd started to have headaches and other symptoms that indicated intoxication by carbon monoxide. The Admiral tried to avoid letting his men know, but eventually his communications revealed that something wasn't right. Realizing the danger, a rescue expedition was organized, but the weather conditions and technical problems delayed the departure of the team. After two unsuccessful attempts, a team of three reached the advanced base and found Byrd in poor condition. They managed to provide him basic care for his recovery, but the weather conditions made their return impossible until the end of the winter, two months later.

Once Byrd was back on the base and the winter was over, they started the task of exploring the plateau of Marie Byrd Land, trying to connect the interior of the

region with its coastal line. Air mapping flights were successful in mapping the region south of the Edsel Ford Range, while sledge parties explored the south and east of the base. An air exploration of the eastern edge of the Ross Sea indicated, even though not definitively, that there was no strait that could connect that region with the Weddell Sea. With those activities, added to the observations made during winter, the expedition had an impressive amount of scientific results to show and, in February 1935, they sailed back to the US after loading stores and equipment from Little America on to the two vessels that went there to relieve the expedition.

Despite Byrd denying, when he called at Dunedin in New Zealand, that the US government had any interest in claiming any land included within the Ross Dependencies, at home, Byrd 'heroic' actions were praised as having claimed in the name of the US many thousands of square miles of new territory and strengthening American rights to the Ross Sea area (Day 2013, 309). His actions finally attracted publicity and gained the favour of the public, which started to perceive a sector of Antarctica as American.

While Byrd and Ellsworth were well advanced with their preparations, John Rymill was in London trying to resume his former leader's efforts for an Antarctic expedition. Rymill had approached the Polar Committee and the RGS asking for their patronage, and the RGS consulted some polar experts about the suitability of Rymill and the proposed programme, including the SPRI director, Frank Debenham. In a letter sent to the president of the RGS on 29 November 1933, Debenham praised the Australian as the successor of Watkins and urged him to support the man and his project, which only seconded Watkins's original one of crossing the continent, of 'which we have been robbed by the Americans, owing to our slowness to support our own explorers'.²¹³

Rymill's proposal was directed to the exploration of the FID, in the Antarctic Peninsula area, to complete the outline of the coast beyond 'Hearst Land' and establish the existence of a strait between the Ross and the Weddell Sea, along with

²¹³ Debenham to the president of the RGS, 29 November 1933, *Op. Cit.*

other secondary objectives. As seen, the determination of the continuity of the peninsula and the interior as well as the possible connection between the Ross and the Weddell Sea had an important political consequence. Wilkins had mistakenly established—as he believed, beyond doubt—that the peninsula was in fact an archipelago, and even had declared that the fact had important political consequences regarding the claim to the continent.²¹⁴ As well, the continuity within the landmass could be interpreted from a similar perspective and was on the agenda of all the explorers in those years. But more importantly, the expedition would have had the relevance of establishing an important precedent of British involvement in research on a region that had been predominantly surveyed by other nations and in which the Argentine government had had a disposition of showing an active interest.²¹⁵ Instead of geopolitical concerns from the officials in the governmental departments linked to the Antarctic issue, it was the scientists and their institutions who were raising the alarm about the risk associated with neglecting the region and called for action.

The Council of the RGS approved Rymill's proposal and formed a sub-committee to assist him in gathering support. The sub-committee advised the leader of the expedition to request financial support from the Under Secretary for the Colonies and asked, through the RGS president, Cox, for the collaboration of the Dominion Office. Thanks to their influence, in March 1934, the latter conceded Rymill a grant of £10,000 from the FID 'Research and Development Fund'²¹⁶ and formed an inter-departmental committee to keep contact and assist him.²¹⁷ Shortly afterwards, the RGS approved a donation of £1,000 as an expression of its full

²¹⁴ Wilkins had even declared that the fact demonstrated that 'the British were not the first to see the actual Antarctic continent and it probably mean a re-arrangement of territorial rights'. See: Extract from Article by Sir Hubert Wilkins in the 'New York American' of 13th March, 1929. Antarctic. Sir George Wilkins's South Polar Expedition "Willkins – Hearst Antarctic Expedition": A981/ANT44. NAA/AUS.

²¹⁵ Cox to the Under-Secretary of State for the Dominions Office, 2 January 1934. British Graham Land Expedition 1934-1937: RGS/CB9/22. RGS-A/UK.

²¹⁶ The fund created from part of the revenues coming from the granting of whaling licenses in the FID and destined to finance the Discovery Committee activities.

²¹⁷ Under-Secretary of States of the Dominion Office to the President of the R.G.S., 6 March 1934. British Graham Land Expedition 1934-1937: RGS/CB9/22. RGS-A/UK.

support for the enterprise. In addition, in April 1934, the Admiralty petitioned the Treasury for the loan of three officers to the expedition to be paid for by naval funds over the period of three years. The petition was justified under the scientific utility of determining the connection between ‘Graham Land’ and the continent—in addition to other expected scientific results; the valuable experience gained in polar exploration; and to ‘give colour to our claims to the various sectors which have been declared dependencies...’.²¹⁸

To facilitate funding, the ‘British Graham Land Expedition’ was planned with volunteer scientists and minimum equipment, including a small fishing ship, the *Penola*; a 19-foot motor boat; a small Bristol tractor; dog sledges and a 3-4 seater de Havilland Fox Moth biplane.²¹⁹ Within this group of scientists was a young ornithologist who sailed with Jean-Baptiste Charcot on his Arctic expedition to Greenland in 1933, Brian Birley Roberts, who later on played a most relevant role in defining the British policy on Antarctica. As a last-minute arrangement to gather further funding, Rymill had arranged the production of a film of the expedition with Pathé but, due to the lack of resources, Roberts and the geologist William Launcelot Fleming—who was ordained deacon in 1933 and priest in 1934—would be the producers.

In the meanwhile, Ellsworth had been re-embarked on the *Wyatt Earp* at Dunedin, from where they headed to Deception Island. This time, Ellsworth would try the opposite direction and depart from the Peninsula area, crossing to the Ross Sea. After his departure, Ellsworth’s brother-in-law, Bernon Prentice, wrote to the US State Department in order to enquire about the Department’s interest in authorizing Ellsworth to take possession of any unknown land discovered. A few days later, the State Department answered that, as Ellsworth’s expedition was of an unofficial character, the Department could not authorize him to undertake such

²¹⁸ The Secretary of the Admiralty to the Secretary of the Treasury, 7 April 1934. Fighting Services: Seconding: Loan of Naval Officers to the Royal Geographical Society for an expedition to the Antarctic: T162/337/11. TNA/UK.

²¹⁹ British Graham Land Expedition 1934-1937 – Personal Journal by Brian Roberts, Vol I, Dec. 1934 – Dec. 1935: MS1308/3/1, p.6. SPRI-A/UK.

actions. However, they subtly suggested that any actions undertaken by Ellsworth as private citizen would not ‘embarrass’ the Department. In other words, they were suggesting that Ellsworth laid claims to discovered land, but without official sanction.

To Ellsworth’s disappointment, the events did not turn out as planned. After realizing that conditions at Deception Island were not adequate for taking off with skis, they headed to Snow Hill Island where they found a suitable ice surface that could be used as airfield. Bad weather prevented them from departing until 3 January 1934, when Ellsworth and his pilot Balchen took off only to have to turn around after having barely travelled some 200 miles. As bad weather continued, Ellsworth abandoned hope of accomplishing his objective that season. With some efforts, they managed to free the ship from the ice on 18 January, arriving in the United States by the end of February.

Having departed from London on 10 September 1934, Rymill’s expedition confronted several problems. The *Penola* presented a severe failure in the setting of its engines that could compromise ice-navigation. Rymill proved to be a poor administrator and the limited resources meant that the scientific personnel needed to assist with the ship handling to avoid the cost of additional men, rations and accommodation. But the arrangements resulted in significant losses for the expedition. Scientists mismatched the naval discipline imposed by the captain of the ship, Robert (Red) Ryder, and the tasks imposed prevented them from taking most wanted observations (L. Fleming, Bertram, and Roberts 1996, 104).²²⁰

In late November, the *Penola* arrived at Port Stanley (*Pto. Argentino*) where they were assisted by the *HMS Exeter* and the *Discovery II*’s personnel.²²¹ The difficulties with the engines delayed their departure until the middle of January, when Ellsworth was already retreating from his failed second attempt. The delay altered the

²²⁰ See: British Graham Land Expedition 1934-1937 – Personal Journal by Brian Roberts, Vol I & II: MS1308/3/1-2. SPRI-A/UK

²²¹ In his memoirs, Roberts compared very favorably the installations and comforts available in the *Discovery II* when compared to those on the *Penola*. See: British Graham Land Expedition 1934-1937 Vol. I; *Op Cit.*, p.14.

programme of work, and bad weather limited the extent of the sledge trips. As the *Penola*'s engines were unreliable, the expedition harboured in the Argentine Islands where they built a hut and a meteorological observatory. Unable to use the ship for travelling along the icy channels and with ice conditions that impeded the sledge crossing from the base to the mainland, the geographical work in the first season was limited to the immediate vicinity of the base. In return, that limitation improved the chances of undertaking more detailed local work.²²²

In the meanwhile, in London, the financial difficulties had required that the RGS ask the Colonial Office for additional assistance to cover the debts assumed by the expedition, what generated some outrage of Rymill and the RGS. In Debenham's view, the main problem was the lack of acknowledgement by the Colonial Office of the national importance of the expedition;²²³ but the truth was that Rymill was incompetent in financial matters and there was no control over the finances of the expedition until after they had sailed. Similar to the British NAE at the beginning of the century, the RGS was not willing to be held accountable for the expedition and was requesting the government to take responsibility. Also as in that case, the government, through the Colonial Office, acceded to granting an additional £3,000, but required that an advisory committee of non-governmental character be formed to control the expedition finances.

The appeasement of the financial crisis gave some relief to Rymill, but relations between the scientific and non-scientific personnel deteriorated. Roberts frequently complained about the lack of interest and basic knowledge of the conditions of scientific work, considering that the daily activities imposed on scientists and the disregard respecting decisions that affected their work were hindering their efforts.²²⁴

²²² See: Stephenson to Mr. Hinks, 24 January 1936. British Graham Land Expedition 1934-1937: RGS/CB9/22. RGS-A/UK. Similar views are expressed at different sections of: British Graham Land Expedition 1934-1937 Vol II, *Op Cit.*

²²³ Debenham to Sir Percy, 1 January 1935. British Graham Land Expedition 1934-1937: RGS/CB9/22. RGS-A/UK.

²²⁴ In one of the letters to his parents, Roberts even goes so far as to state: "John [Rymill] is unfortunately not in the least interested in science, and this is rather a serious handicap to us. All his ambitions are centered round long sledge journeys..." Letter of 12 November 1935. Roberts, Brian B. – Letters to his parents, 1934-1936: MS1447/6. In fact, in his diary of the expedition, Roberts first

But the conflicts were not only between the scientists and the naval personnel, and disagreements between Rymil and Ryder were frequent.

Despite cordial relations and offers of collaboration between the Rymill expedition and Ellsworth,²²⁵ the British resented the publicity that the American attracted for an expedition whose only explicit achievement would be to cross between two points of the Antarctic coast, and that would take part on what they considered British territory. In their view, there was no scientific achievement to be obtained, only a 'sporting' one.

Picture 20: Ellsworth's Polar Star being prepared for flight



Source: Photographs from Ellsworth's Trans-Antarctic flights, 1935. American Geographical Society Library, USA.

considered Rymill as 'interested' in their scientific work; a perception that would rapidly change during the first months of the expedition and particularly once they were settled on their base in Antarctica.

²²⁵ In late 1935, when Roberts was diagnosed with appendicitis, Ellsworth was approached with a view of a possible evacuation of Roberts to the Falkland Islands (Is. Malvinas) or the South American continent for medical treatment. In the end, it was the *Penola* who took Roberts to Pt. Stanley (Pto. Argentino) where he was operated on, so Ellsworth's assistance wasn't required. Ellsworth was also committed to delivering the mail to the Antarctic party.

But Ellsworth was beyond those considerations, and by the end of October 1935, he was at Deception Island assembling the *Polar Star* to make the third attempt at transpolar flight. As in the previous years, Wilkins would be assisting the expedition in the *Wyatt Earp*, while Banchen had deserted the expedition and in his place, Ellsworth had selected two Canadian pilots. This time, they decided to use 'Dundee Island' on the tip of the Antarctic peninsula as a base for the take-off. Ellsworth feared that the arrival of the *Polar Star* in Little America could precede by a couple of months the arrival of the *Wyatt Earp* to the Ross Sea and wrote to Byrd to enquire about the availability of stores at his old base. The petrol and oil shipped by Ellsworth the previous year was available, but they would have to wait for news about the existence of other stores.

By the middle of November, the expedition was at Dundee Island, and on 18 November, the *Polar Star* was already on land ready for the flight. In case of forced landing and failure in radio communication, Ellsworth left detailed instruction about where and along which route he would proceed to a rendezvous point. After a few false starts, during which they discovered a whole new mountain range, Ellsworth and Hollick-Kenyon took off on the morning of 22 November 1935. The flight lasted 13 days until the engine failed due to lack of fuel, completing a total flight time of 22 hours 15 minutes (Ellsworth 1938, 315).

Early on, the radio proved to be defective and they eventually lost contact with the party at Dundee Island. However, they pushed west. Ellsworth's concerns were not scientific, but political. He intended to reach at least 80° west longitude, the limit of the claimed FID, into the 'unnamed and unclaimed territory' where he expected to claim the land on behalf of the United States (Ellsworth 1938, 301) following the unspecific suggestion of the State Department from the previous year. Once they were sure they'd passed that point, as their sextant was giving some unclear readings; they landed to establish their location, rest and, more importantly, rise the Stars and Stripes, claim the land, and name it James W. Ellsworth, in honour of the expedition leader's father.

Difficulties in establishing their location and bad weather forced them to make several stops on their way. Once they'd definitively landed, it took them ten additional days to get to the base at Little America. With little orientation and knowing that Byrd's old base was buried under the snow, they had many difficulties on fixing their location, but ended up reaching the Ross Sea and, eventually, the buried village.

In contrast to almost all other expeditions, the time in the village was not spent on any kind of scientific observation. The two companions merely spent the time in silence, dealing with daily tasks and waiting for the *Wyatt Earp* to arrive. Ellsworth, who had suffered the effects of frostbite in one of his feet for some time, started to get worse. Luckily, a month after their arrival, they received a message thrown in a parachute by an Australian pilot informing them that they were there to rescue them.

The Discovery Committee flagship, *Discovery II*, had been sent to rescue them. The loss of contact just after their departure had risen some voices of alarm and, despite Ellsworth's provisions regarding those eventualities, preparations started in early December in order to organize a rescue operation. The initiative came from the Australian government, eager to seize the opportunity to demonstrate 'authority in both Australia and New Zealand Antarctic territory'.²²⁶ The Commonwealth government swiftly enquired of the Polar Committee about the possibility of deviating the *Discovery II* from its usual research activities in order to conduct a search and rescue of Ellsworth and his pilot, to which the Committee agreed on the condition that the cost of operations would not be defrayed from the Committee's funds. At Wilkins's request, Rymill was consulted about the possibility of his expedition assisting with the search, doing some reconnaissance on Charcot Island, but he replied that his ship was not suited for navigation on those waters and that his aeroplane was out of range.

At last, Australia managed to agree with the United Kingdom and New Zealand governments to share the costs, giving a British character of authority to the

²²⁶ See: Gallbraith to Minister of External Affairs, 16 December 1935, and Cablegram to the Prime Minister of New Zealand, 16 December 1935. Search for Messrs. Ellsworth & Kenyon: A981/ANT38. NAA/AUS.

operation.²²⁷ The initiative took a form of urgency and eventually the *Discovery II* not only arrived at the Bay of Whales in search of some radio signal from Ellsworth as agreed with Wilkins but, once they had located the explorers in the abandoned American base, proceed to their evacuation. Just a couple of days later, the *Wyatt Earp* would arrive in the Bay to reunite with its leader and the pilot.

However grateful he was with the British government, the political implications of his rescue and the way in which the press treated his alleged disappearance caused some embarrassment to Ellsworth, who in his memoirs felt it necessary to state that he was not rescued, but aided (Ellsworth 1938, pt. 3 Chapter XVI). The usual acclaim and press attention in acknowledgement of his transpolar flight followed his return to civilization. In terms of science, there were not much to display besides the air-photographs taken during their voyage and one more sign that the conclusion of his fellow-explorer Wilkins that the Antarctic peninsula was in fact a group of islands was incorrect.²²⁸ Nevertheless, in June 1936, the American Congress decided to honour the explorer by presenting him with a gold medal:

for claiming on behalf of the United States approximately three hundred and fifty thousand square miles of land in Antarctica between the eightieth and one hundred and twentieth meridians west of Greenwich, representing the las unclaimed territory in the world...²²⁹

Whilst Ellsworth was parading in the US, the British Graham Land Expedition was finally undertaking the coveted geographical survey of the west side of the Antarctic Peninsula. The winter had allowed the party to conduct the necessary reparations to the engines and when the ship was freed they headed south to

²²⁷ The arrangement was that Australia, the United Kingdom and New Zealand would equally divide the cost of the operation of the ship, up to a total cost of £6,000. Exceeding that amount, the cost would be equally divided between the Australian and United Kingdom governments. See: Prime Minister of New Zealand to the External Affairs Department of Australia, 19 December 1935 [& others]. Search for Messrs. Ellsworth & Kenyon: A981/ANT38. NAA/AUS.

²²⁸ In fact, Ellsworth seems sometimes to downgrade the importance of science. In a specific paragraph he states: 'Science demands proof, but does not the evidence of these lofty mountain ranges and high plateaux discovered on the flight carry the thought that they are but units in a great mountain system that traverses Antarctica?' (Ellsworth 1938, 304)

²²⁹ History and Current Status of Claims in Antarctica, *Op. Cit.* p.22.

Marguerite Bay, where they established a new base at a raised beach on a small group of islands—which they named Debenham Islands in honour of the Cambridge professor (L. Fleming, Bertram, and Roberts 1996, 107). After unloading timber and the stores, the *Penola* headed to South Georgia, where it was refitted.

Carrying out recognition flights with the Fox Moth aeroplane, they sighted unexpected successive ranges of mountains that suggested that the Antarctic Peninsula was actually attached to the continent, discarding the idea of a connection between the Weddell and the Ross Seas. Further sledge trips allowed the expedition to corroborate that idea and to map some 500 miles of the west coast of the Antarctic peninsula and to determine that ‘Alexander Land’ was actually an island; while observations taken in meteorology, geology, glaciology, and the biological sciences complemented the results obtained.

After much hardship, the *Penola* managed to retrieve the expedition members from the Debenham Island base and, in the middle of March 1937, put out to sea and returned to civilization. Despite all the hardships and limitations, the expedition was, in many ways, a complete success. The survey had shown that ‘Graham Land’ was actually a peninsula, part of the continent; and it had done it under a much more solid basis than Ellsworth’s considerations. It had also unveiled an important sector of the west of the Antarctic Peninsula and had studied its natural and physical features. It had, in brief, demonstrated the British involvement with the region through a deeper knowledge of it, and it had done so with a really restricted budget and timid official support.

Chapter Four: The World War and its Impact on Antarctic Politics

At the end of the 1930s the world was heading to an inevitable war of unknown proportions. The order established after the Great War was trembling under the expansion of totalitarian movements around Europe and other parts of the world. The protectionism promoted after the economic crisis of 1929-1930 and its social consequences led to the rise of nationalist feelings and extreme ideologies. The rampant triumph of the Communist order in the Soviet Union and the rising power of fascist movements seemed to indicate the expiration of the liberal order and the values attached to it. The evident failure of the international institutional order organised around the League of Nations after the First World War discredited the possibilities of international collaboration, while the evident switch in the balance of power and the US reluctance in acting as guarantor of the international order configured a situation in which the international system was open to competition for establishing new hegemonies.

During the 1930s scientific international collaboration experienced a revival after the creation of the International Council of Scientific Unions (ICSU) born from the demise of the IRC. As written in its statutes, the IRC was to be reviewed in 1931, and on 11 July, the 5th General Assembly of IRC was reconvened as the 1st General Assembly of the ICSU. The old structure of the Council was seen as unfit due to two main limitations (Sullivan 1962, 25). The first was the exclusions that had introduced political considerations into what should have been an apolitical organization. The second was the introduction to its statutes of the instruction to initiate and direct international scientific programmes, something that the unions saw as excessive interference in their affairs. Originally, the IRC had been organized under national membership, incorporating the unions as they arose under the IRC auspices. But as the unions grew in number and relevance, the inadequacy of the old organizational structure became apparent. The new institution marked a transition from a caucus of Academies (IAA) to a national-based international system (IRC) to a system that guaranteed the autonomy of the scientific unions (ICSU) (Greenaway 1996, 40–42). The ICSU not only recognised the key role of the unions in its name, but also assigned

a special voting system to incrementally weight the unions' representation.²³⁰ The newly established body instituted as its purposes: to coordinate the work of its national scientific organizations and unions, to direct international efforts in subjects not already covered by existent associations (a substantial difference from the IRC) and to promote scientific investigation through governmental contacts with the governments whose associations were members of the Council (Greenaway 1996, 37). However, after a brief period of growing activity and promotion of international action, the rising tensions around the world increasingly obstructed the work of the organization and, in 1940, the Council domicile in Brussels was temporarily suspended after occupation by Nazi Germany.

Once the war broke out, links across borders, personal or otherwise, were hampered; international organizations were dissolved or suspended; the sense of a 'civilization' trembled and the loss of life counted in the dozens of millions. By late 1945, once the war had already come to an end, the world looked nothing like it was in 1939. And in many ways, that would also be the case with Antarctica.

In contrast with the First World War, in which the main effect of the conflict was the almost complete abandonment of the Antarctic effort, the effects of the Second World War would have not only a much more profound effect on Antarctic international relations in its aftermath, but it also had a direct impact during the conflict. The rising competition between powers during the 1930s and the escalation of tensions that included the radical nationalisms promoted by the fascist governments in Spain, Italy, Germany and others, provoked a schism between social groups whose activities started to be seen as strongly related with national security. Scientists were one such group, and the efforts to secure military advantage through technological development counterweighted any remaining tendency for independent international cooperation. Scientific and technical cooperation started to be pondered

²³⁰ Each Union was assigned with three votes, while the national members were assigned one vote on a national basis (all national members of a single nation had a single vote as a whole). In the whole history of the ICSU national members were much more numerous than Union members, due to the different growth rate of national scientific organizations—which constituted the bulk of national members—and the arise of new scientific fields of research—usually reflected in a specific Union.

in the light of strategic concerns and the whole scientific and technological system started to be managed from a national perspective. Antarctica would be no exception.

The logic of strategic competition in Antarctica installed by the war—even when under the guise of scientific research—structured relations between the nations involved in Antarctic activities up to the point that, once the war was over, the competition became more intense, and some of the encounters reached an even higher level of confrontation. Scientific collaboration and coordination in Antarctica was rather limited, unstructured and conflictive, despite the resumed activity of the ICSU post-war. The transformation experienced by the role of the scientists within the national spheres of decision-making during the war had resulted in a much more conflictive identity that had to regard and weigh individual scientific, ideological and national commitments. It had also resulted in a greater degree of influence on the political process, superseding its previous role as a gatekeeper of scientific quality and becoming directly involved in the decision-making political process. However, it would have to wait until the accumulated need for international collaboration became compelling and the international context offered a window of opportunity, for that acquired capability to become a factor in favour of international scientific cooperation.

4.1 Whales and Strategic Interests: The Prelude to the War and the Domino Effect

The slow recovery of the whaling industry also saw an important change in the origin of operations. While, until 1934, the predominance of Norwegian and British interest was almost absolute, by 1939 the German and Japanese had taken a relevant participation in the activity.²³¹ The 1931-1932 suspension of activities of many whaling companies operating from shore stations resulted in definitive closure as they

²³¹ See: Territorial Claims in the Antarctic: A4311/365/8; *Op. Cit.* pp. 5-9.

Panama also started to participate in the activity with a relevant percentage (around 8% in the 1935-1936 season).

weren't able to deal with the resulting losses and the rising competition from pelagic whaling. International negotiations for the control of whaling was developing slowly and by 1937 they'd reached an agreement on auto-imposed quotas aimed to avoid the exhaustion of the resource. However, the incorporation of Germany and Japan to the industry, who hadn't agreed to those measures, meant that those limitations would not apply universally. The increasing participation of those two countries in the market was coupled with renewed interest in the Antarctic, this time backed up by their respective governments.

In the late 1920s, the German dependence on Norwegian whale oil and the good economic prospects of the industry had led some private interests to make plans for developing a German whaling fleet. However, the economic crisis of the 1930s and the severe drop in the prices of whale oil led to the deferral of such plans. That would change in 1933, when the coming to power of the *Nationalsozialistische Deutsche Arbeiterpartei*—the Nazis—in Germany, would result in the promotion of a national whaling industry (Fontana 2014, 62).

In September 1936, the first German whaling expedition to Antarctica was dispatched. The expedition was under the command of Captain Otto Kraul, who had worked for the *Compañía Argentina de Pesca S.A.* and another whaling company based in Buenos Aires before returning to Germany in 1930. The expedition was a success and, the following year, the acquisition and building of new factory vessels and the chartering of Norwegian ships allowed a significant increase in Germany's whaling numbers.

At the same time, different departments within the Nazi government were studying the possibility of laying a claim to Antarctic land as a way to avoid the control of and dependence on foreign powers. The idea was part of Hermann Göring's broader 'Four -Year Plan' which sought Germany's autarchy in the provision of raw materials, including oil and lipids, many of which came from whales. Helmut Wohlthat, a high-ranking officer in Göring's department, came up with the idea of an Antarctic expedition that would condense Germany's economic and territorial goals related to its rising whaling involvement.

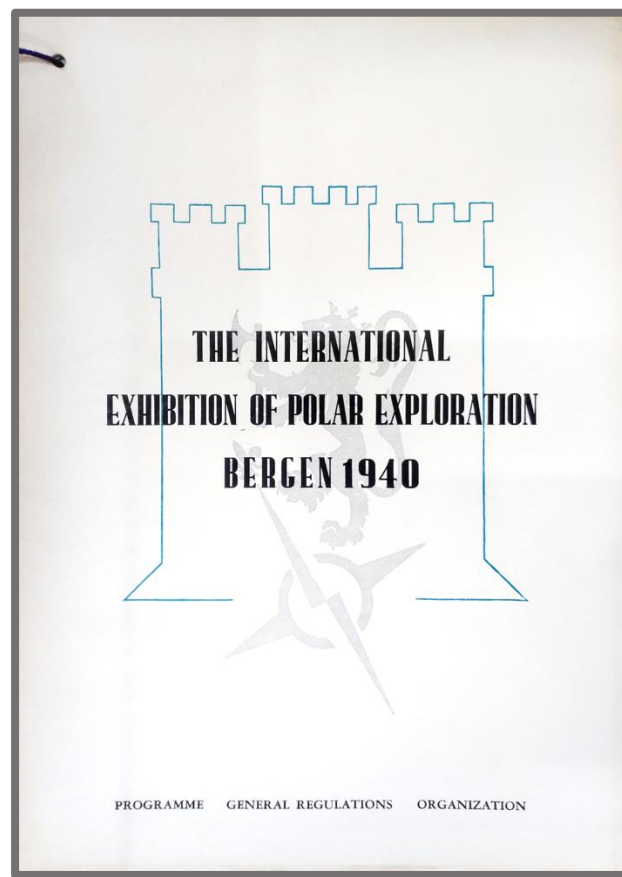
The development involved multiple Ministries, including the German Navy, the *Auswärtiges Amt* (Foreign Office) and the *Reichswirtschaftsministerium* (Ministry of Economics), which came up with a plan that would allow Germany to claim a relevant and strategic sector in Antarctica for the expansion of its whaling activities. The expedition was designed as a geographic and scientific expedition with an admirable programme of investigations. However, behind those scientific goals, there was a confidentially acknowledged aim of gathering bases for a territorial claim that could sustain Germany's economic and strategic interest in whaling (Murphy 2002, 188–189). In May 1938, Göring approved the plan, which remained in secrecy.

Contemporary with Germany's Nazi government interest in Antarctica, there were calls within the US government of adopting a rather more active attitude. The Department of the Interior was studying a way to strengthen potential US territorial claims and, in late 1937, asked Richard Black, a geographer who took part on Byrd's second Antarctic expedition, to devise a plan for an Antarctic official expedition (Day 2013, 320). For his part, Byrd was lobbying the State Department to make a formal claim and started to plan another expedition to annex Marie Byrd Land.

This was followed by the announcement, at the end of 1937, of the upcoming 'International Exhibition of Polar Exploration' to be realized in Bergen, Norway, between 15 May and 22 September. The exhibition, as defined in its programme,²³² was aiming to present the scientific and practical results of polar exploration and was divided in three main sections: i) Exploration of polar regions; ii) Physical Geography; and iii) The man [*sic*] in the polar regions. Following the same trend present in other fields, participation on a national basis was prioritised, the official representative appointed by its respective government being the one authorized to negotiate with the individual exhibitors belonging to that country. At the beginning of 1938, invitations were sent to institutions of countries involved in the exploration and exploitation of the north and south polar regions.

²³² Exposition Polaire Internationale, Bergen 1940. Programme, Règlement Général, Organisation. 24 March 1938. Polar exploration - exhibition at Bergen. Code 405 file 3374. General Correspondence, Miscellaneous, Files 2623 – 3996: FO370/551. TNA/UK.

Picture 21: Cover Page of the booklet of the International Exhibition of Polar Exploration



Source: CO852/245/2; TNA/UK.

While the Norwegian invitation was being assessed by the different countries invited, in April 1938 a significant political outcome was reached. The French and the British governments finally agreed on a common boundary between Adélie Land and the two sections of the Australian Antarctic Territory (See *Figure 7*). The agreement was not recognized by any other country, but the absence of any protest by other powers was considered as an implicit acknowledgement by both governments.

Negotiations between the two countries had taken place since September 1933, after the French took notice of the British Order in Council that placed the 'Australian Quadrant' under the administration of the Commonwealth of Australia. Discussions took place related to the initial French definition of Adélie Land as comprising the sector south of 60° south latitude, between parallels 136° and 147°

east.²³³ While the United Kingdom seemed more willing to accept the French request, Australia resisted the extension of the claimed sector beyond where D'Urville had actually seen, between 136° 30' and 142° east.²³⁴ After some years of negotiation and diplomatic interchange, in March 1938 the French acceded to the British demands and fixed the boundaries of Adélie Land in a decree of 1 April 1938, in which the sector was defined as comprising the islands and territories south of latitude 60° south and lying between 136° and 142° east. An additional accord was reached regarding the right of passage for aeroplanes in their respective sectors.

The following month, while the Germans were approving their plans for the upcoming Antarctic expedition, Black was presenting his plan for a small exploration of the coast east of the Ross Sea, the 'unclaimed quadrant', in which another of Byrd's former expeditioners, Finn Ronne, would take part. Byrd had announced his own intentions to go south again while Ellsworth had teamed once more with Wilkins and publicised in the *New York Times* his intention to explore the 'Enderby Quadrant'.

All those efforts were independent of the upcoming Norwegian 'Polar Exhibition' and were set against a background of intensifying international tensions and rising nationalisms. Despite the scientific character of all of them, which was structured over four decades of Antarctic endeavour, the veiled objective of each one of them was territorial acquisition of Antarctic land, closely related to economic and strategic interests. The increasing internationalization of the ICSU and the scientific unions did not help to overcome the predominant lack of international coordination and cooperation, which was limited to personal contacts between scientists and fellow

²³³ An account of the interchange and negotiations is present in: Adélie Land and the Settlement of French Claims. Territorial Claims in the Antarctic. Territorial Claims in the Antarctic by Research Department, Foreign Office, May 1st, 1945: A4311/365/8, pp. 99-101. NAA/AUS.

²³⁴ However, it was the British who, in 1913, had sent a letter to the French stating that they understood their declaration of reservation of rights to Adélie or Wilkes land as comprising latitude 66° and 67° south and longitude 136° and 147° east, and on which the French were basing their actual position. After some study, the Australians identified the issue as an error of translation of the original accounts of D'Urville's voyage in which the English version was mistyped as 147 instead of 142 as it was on the French version. The acknowledgement of that fact seems to have been determinant in the French acceding to the British demand.

polar explorers. Even the planned exhibition in Bergen was pondered on its potential political effects, and not as a space for favouring polar cooperation.

In the UK for example, the exhibition was initially considered a commercial initiative aimed to favour tourism,²³⁵ but it was regarded that an adequate representation should be made in order to correspond to what was considered their prominent role in Antarctic exploration and to forestall Norwegian tendencies to 'exaggerate their achievements'.²³⁶ However, it is noteworthy that the RGS, the Discovery Committee and the SPRI were consulted about the importance of British participation, and their contacts in Norway used as a way to obtain further information regarding the character of the event. However, the event seems not to have generated special interest within Whitehall or elsewhere. The Treasury's reluctance to provide funds was only overcome once the Admiralty, the Air Ministry, the Colonial Office and the Foreign Office expressed the desirability of participation on political grounds. Consultation with the FID government was considered but finally dispensed, despite being thought of as the only UK territory interested in the exhibition.²³⁷

In other countries, the response to the invitation resulted in different outcomes. Most significant was the reaction that the upcoming exhibition generated in Argentina and Chile, where the announcement of the exhibition raised the national conscience over the Antarctic issue and eventually it was seized as an opportunity to enter into international discussions on the political status of Antarctic territories.

However, while those considerations were taking place, Byrd, Ellsworth and Göring were advancing on their plans for Antarctic exploration. Byrd had acquired an old whaler, the *Bear of Oakland*, for his expedition; while Ellsworth commissioned

²³⁵ Minutes of Interview with Mr. Hinks by S. Gaselee, 1 September 1938. Polar exploration – exhibition at Bergen. Code 405 file 3374. General Correspondence, Miscellaneous, Files 2623 – 3996: FO370/551. TNA/UK.

²³⁶ Hinks to Collier, 15 June 1938. Polar exploration - exhibition at Bergen. Code 405 file 3374. General Correspondence, Miscellaneous, Files 2623 – 3996: FO370/551. TNA/UK.

²³⁷ See for example: Bevin to Unknown, 16 June 1939. International Exhibition of Polar Exploration, Bergen 1940: CO 852/245/2. TNA/UK.

the adaptation of a Northrup Delta monoplane for his flight; and in Germany, Alfred Ritscher, a pilot with Arctic experience, was appointed leader of the upcoming expedition, with Alfred Kottas as captain of the ship *Schwabenland*²³⁸ and Otto Kraul as ice pilot (Murphy 2002, 190).

The Nazi Antarctic expedition was characteristic of the general policy of its government, in which the rising Germany was looking to obtain what was considered its rightful place in the concert of nations. From that perspective, Wohlthat's plan was both a way to concretize his strategy of developing an independent whaling industry and to put Germany back among the vanguard nations in Antarctica, redeeming its record of remarkable exploration of the polar regions. As with many other conditions imposed by the Treaty of Versailles, the Nazi government was unwilling to accept what was seen as an unjustified blockade of Germany's rights in Antarctica.

However, Wohlthat's expedition was rather unique. Instead of being the initiative of individual scientists, explorers and scientific academies which looked for the official support of the government; the new expedition was a complete governmental initiative in which individual scientists and academies didn't play any significant role in its organization (Murphy 2002, 187–188). As a result, the scientific programme was planned according to the political directives that motivated the project. In Thomas Murphy's words: 'Science was to be incidental to territorial expansion and preparation for war' (2002, 188).

The plan included an ambitious scientific programme to be developed that incorporated geographical work, atmospheric studies, sea-depth soundings and meteorological observations. Nonetheless, the activities constituted the public justification for an expedition that was directed to a sector that the Germans knew that Norway had ambitions on itself, while providing the necessary basis for an

²³⁸ Originally another catapult tanker ship, the *Westfalen* was assigned to the expedition. The tanker was used for Lufthansa as a fuelling ship and catapult for the air mail transatlantic service. But as adaptations were needed for ice-navigation and the *Westfalen* was based in Rio de Janeiro (Brazil), the maintenance of the necessary secrecy led to the choice of the *Schwabenland*, which was based in the Azores (Murphy 2002, 191).

eventual claim to the territory, both for material reasons and formal legalist international justification.

The expedition totalled 82 men, including 25 scientists and technical experts, 2 long-range Dornier Do 16 (Originally Do J) *Wal* flying boats, the most advanced photographic equipment available at that time and lots of stores and other scientific instruments, including high altitude radio weather balloons for the study of the upper atmosphere—important for its application to military aviation—and electro-acoustic sounding equipment for the study of the ocean floor. The Dornier *Wal* was adapted with a special bay to throw dart javelins with swastikas on their head and Nazi flags at regular intervals, as part of the specific objective of territorial claiming. Instead of having heavily equipped landing teams involving dog sledges, motorized vehicles and the erection of huts, the expedition was designed as an efficient exploration based on aerial mapping and recognition. In that way, the Germans would be able to explore and claim an extensive tract of land without the complexities involved in longer and more heavily equipped expeditions.²³⁹

While the Germans were advancing with their organizational plans, the rest of the world remained ignorant of their intentions. Ellsworth continued to advance with his plans to explore the unknown region of ‘Enderby Land’ as suggested by Wilkins, who highlighted the potential discovery of tracts of mineral resources. Once more, what interested the American explorer was not science but geographical discovery and eventual territorial rights. In June, Ellsworth had approached the US State Department through his brother-in-law, Mr. Joseph Ulmer, to express his willingness to claim on behalf of the United States any land he might discover and to ask if the Department had any suggestion regarding the region to be visited to such an end (Document 938, Axton et al. 1955, 4120–4126). As on the previous occasion, the State Department answered in rather contradictory terms. On this occasion, Mr. Hull, the Secretary of the State Department, informed Ellsworth’s brother-in-law that the State Department could not make such suggestions, being that his expedition was of

²³⁹ Without any necessary analogy, I could say that it was a kind of ‘*blitz*’ expedition, in the sense that it was directed to a rapid and efficient way to advance on Antarctic territory.

a private character and his personnel were of a truly international nature.²⁴⁰ However, Hull requested the American Ambassador at Cape Town to confidentially inform Ellsworth:

in strict confidence, that it seems appropriate for him to assert claims in the name of the United States as an American citizen, to all territory he may explore, photograph, or map which has hitherto been undiscovered and unexplored, regardless of whether or not it lies within a sector or sphere of influence already claimed by any other country (Document 938, Op. Cit. 1955, 4121–4122).

The instructions had to remain confidential and Ellsworth, while not receiving any suggestion regarding the region to explore, was instructed on the formal aspects of the documents to be delivered and was required to deny any official instruction or governmental knowledge of his intentions for laying claims.

Almost simultaneously, Wilkins wrote to the Australian government to offer his services to receive declarations of British claims to be deposited during his voyage.²⁴¹ The objection of being part of an American expedition was dispensed on the grounds that he was acting in a capacity of ‘adviser’ and not as expedition ‘member’. Wilkins’s offer was considered, but it was rejected because it was believed that it could signal to other countries that Australia doubted the validity of their already existent titles; it could offend Mawson, who had laid the basis for such titles; and could generate conflict between Wilkins and Ellsworth, which the Australian government wanted to avoid.²⁴² Instead, the Australian government offered that Wilkes be granted authorization to act as an official representative of the Australian government, which could be regarded as exercising effective administration on Antarctica.

²⁴⁰ It was pointed out that Wilkes was Australian, his pilot Canadian and most of the *Wyatt Earp* crew Norwegian.

²⁴¹ Wilkins to Casey [Telegram], 6 September 1938. Antarctic Ellsworth’s Flight Enderbyland – Ross Sea: A981/ANT22. NAA/AUS.

²⁴² Sir Hubert Wilkins visit to the Australian Antarctic Territory, 8 September 1938. Antarctic Ellsworth’s Flight Enderbyland – Ross Sea: A981/ANT22. NAA/AUS.

At the end of October, the *Wyatt Earp* left Cape Town in the direction of the Kerguelen Islands and then to Heard Island, where Ellsworth informed Wilkins about his intentions of claiming all explored land and suggested departing from Wilkes Land instead of Enderby Land, but Wilkins convinced him that Ingrid Christensen Coast would be a better choice to find a suitable take-off field.²⁴³ It is not clear if Wilkins's recommendation was a sincere one, or was motivated by political reasons, being Wilkes Land was situated at the core of the Australian Antarctic Territory. In any case, it took more than two months from their departure from Cape Town to reach the ice edge, far from the coast of land (Day 2013, 325). Some more discussions took place between Ellsworth and Wilkins regarding the adequacy of claiming already explored and claimed land, and Ellsworth finally agreed to restrict his claim only to the previously unseen land over which he would fly. In this way, even when Wilkins was unable to commit Ellsworth to avoid claiming land within the Australian Antarctic Territory, at least he was able to avoid Ellsworth claiming the coastline, which was considered of capital importance in case the sector principle was applied to Antarctica.

Once at the ice border, despite the received instructions, Wilkins decided to perform several landings that included the hoisting of the Australian flag and the deposit of some document testifying their visit in the name of the Commonwealth government and collecting rocks for geological sampling in search of valuable minerals. On 11 January, while Wilkins was performing the last of that series of formal acts, Ellsworth was able to take off and fly some 210 miles southward into the continent and drop a copper cylinder containing a document claiming for the United States of America the area extending 150 miles to each side of the flight path from the south of the 70° south latitude along the 79° east parallel and another 150 miles south of his turning point at 72° south latitude.

The news of Ellsworth's claim, transmitted by radio to the United States and publicized in the American press motivated the immediate reaction of the Australian government, which questioned Wilkins about the accuracy of such news and the

²⁴³ Ellsworth Antarctic Expedition 1938-39 from Sir Hubert Wilkins, 6 February 1939. Antarctic Ellsworth's Flight Enderbyland – Ross Sea: A981/ANT22. NAA/AUS.

extent of the American claim. Wilkins reported the events, explaining his ignorance of the American explorer's intentions and commenting on his own actions.

Those events show how the race for territorial rights in Antarctica got in the way of the usual team spirit of Antarctic enterprise, which had usually involved a multinational character, if not in their organization then in the practicalities of their execution. National competition in Antarctica was getting in the way of the international character of Antarctic expeditions.

By the middle of December 1938, while Ellsworth was on his way to Enderby Land, the *Schwabenland* was departing from Hamburg on its course through the Atlantic to Queen Maud Land. Important scientific research, especially on meteorology, took place on the outward voyage. However, it was not directed to increase the global stock of scientific knowledge but to provide important strategic information in case of war. The lack of participation of scientists and scientific institutions in the initiative meant that the objectives were designed following strategic concerns, rather than more purely scientific ones.

Picture 22: One of the Dorniers Do-16 Wal on board of the Schwabenland



Source: Do-16, Ca. 1938. Alfred Wegener Institut, Germany.

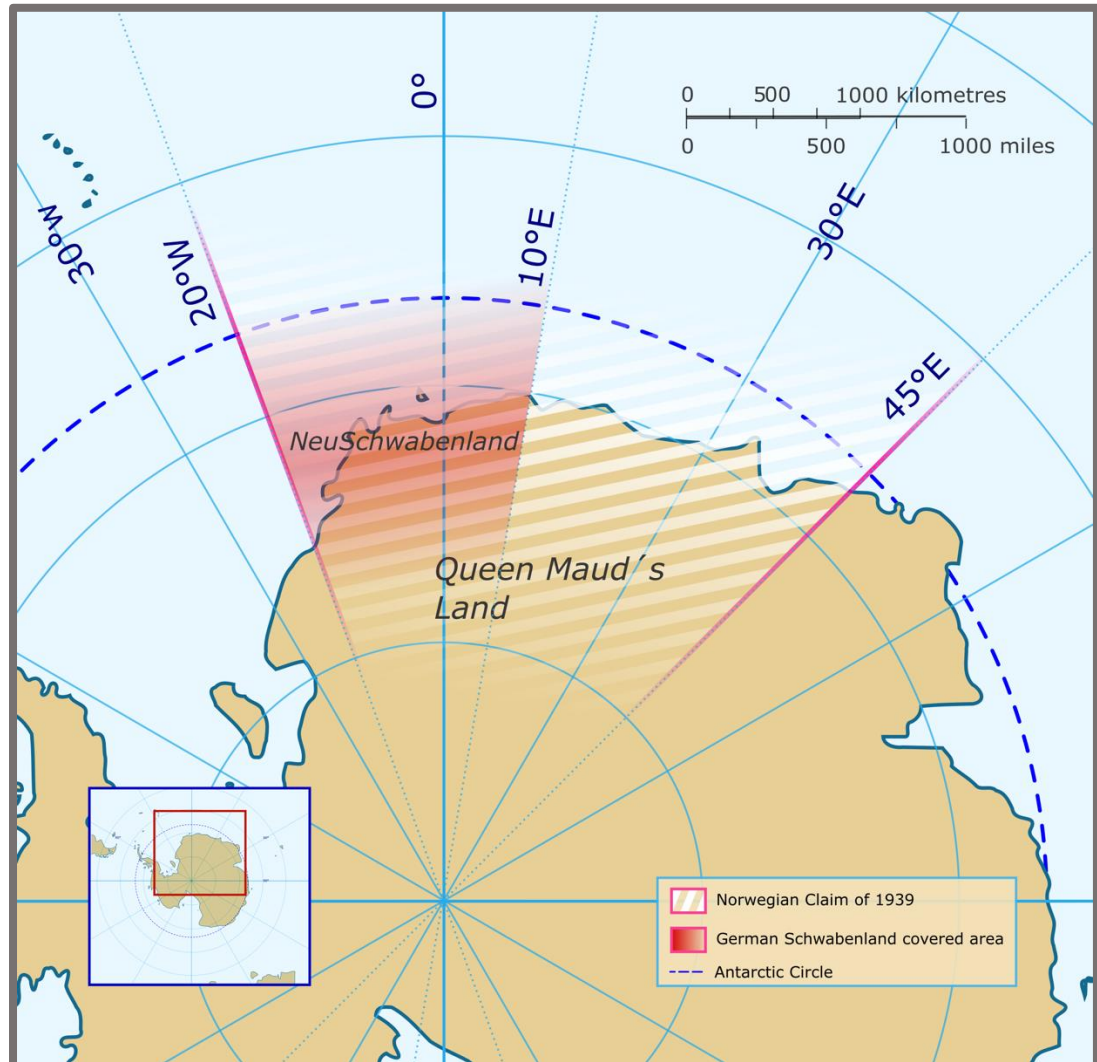
However, the international character of polar exploration could not be avoided fully, and the secrecy of the German activities seems to have been broken by individual contacts between fellow scientists. On December 1938, Adolf Hoel, director of Norway's Svalbard and Arctic Ocean Research Survey—later on the Norwegian Polar Institute—gave a lecture in Berlin about polar exploration, after which tried to contact his acquainted fellow geographer Ernst Hermann, second in command of the Nazi Antarctic Expedition (Fontana 2014, 89). Hermann's wife informed Hoel that her husband was in Hamburg about to set sail to Antarctica with a scientific expedition. Hoel rapidly informed the Foreign Affairs Minister of the Norwegian government, and on 5 January convened a meeting in which he proposed a Norwegian claim as a way to forestall any potential German interest in the intended Norwegian sector.

Some debates took place about the convenience of placing a claim to Antarctic territory but, on 14 January 1939, it was decided that such course of action should be taken. The resulting recommendation by the Minister of Foreign Affairs acknowledged that Russian and British explorations visited the region, but without sighting land and not even stepping ashore as the Norwegians had done since 1929 (*Polar Record* 1939).²⁴⁴ In a move to avoid resistance from other countries, it was asserted that Norway's claim would not be directed to exclude other nations from the water over which it might exert its dominion, but it was aimed to guarantee that its whalers wouldn't be excluded from such waters. The claim was justified on the grounds of Norwegian geographical exploration developed in the region, in which no other country had participated. Following the report, on the same day, the Norwegian King Haakon VII decided to act, claiming for Norway the coast of the Antarctic continent between the FID and the Australian 'Dependencies' 'with the territory lying within this coast and the adjacent seas...' (See *Figure 8*) (*Polar Record* 1939, 173). In accordance with its position in the Arctic, Norway avoided applying the sector principle, leaving undefined the north and south boundaries of the claimed land. After

²⁴⁴ The Foreign Minister's report states: 'Norway considers that it may with full right claim dominion over that land which until now has lain unclaimed and, which none but Norwegians have explored and mapped.' (*Polar Record* 1939, 172)

ten years of effort, Christensen's dream was a reality, even if its extent was not as wide as he would have wanted.

Figure 9: Sketch Map of Norwegian Claim of 1939 and German Explored Area of Neuschwabenland



Source: Elaborated by the author.

Haakon's proclamation was disregarded by the Nazi government which had 'reservations' on the grounds that it considered that the basis for a valid claim should be a willingness to occupy the land and exercise sovereignty, and not merely the geographical discovery or exploration (*Polar Record* 1940, 271). On 17 January, Wholthat informed Ritscher about the content of the proclamation and ordered him to proceed as planned (Fontana 2014, 91). Ritscher complied, and two days later arrived at the unbroken pack ice about 69° south. The two *Wal* aeroplanes were fuelled and stocked with scientific instruments and emergency provisions and supplies

to their inaugural flight on the next day. During the expedition, the Germans confronted several hitches. The *Wal* did not perform as expected due to the heavy load, and the dropping of the javelins proved impractical, despite this they managed to signal the extremes of each flight by throwing the flags with the Nazi swastika. Nonetheless, the expedition managed to make visual recognition of some 230,000 square miles (See *Figure 8*), of which about 135,000 were photographed (*The Schwabenland in the Antarctic* 1940, 95:52), discovering several unknown features, which received German names. The most important of those discoveries was the unprecedented sighting of an Antarctic ‘oasis’, christened Oasis Schirmacher as a recognition of the pilot who originally sighted them. On 6 February, the *Schwabenland* started its homeward journey due to indices that weather would start to worsen, not without taking numerous oceanographic observations.

Following the political nature of the enterprise, during the expedition a diversity of political events took place on the watch of a political commissar of the Nazi Party, Karl Heinz Röbbke. After their return in February 1939, Ritscher and his men were acknowledged by the Nazi government for their achievements in the name of Germany. The maps that their discoveries helped to elaborate gave to Germany a sense of belonging through the naming of its features and the designation of the sector as ‘New Schabenland’ (*Neuschwabenland*) in honour of the ship of the expedition. But although the expedition was of an explicit scientific nature, the implicit political objectives followed by their implementation had generated a series of reactions that would condition the nature of Antarctic international relations in the years to come.

4.2 War on a Global Scale: The Second World War and the Antarctic Power Balance

In early 1939, the US president had decided that his government should take a more active attitude regarding Antarctica. After the Norwegian communication of the Royal decree of annexation of Queen Maud Land, it took the opportunity to reserve all US and its citizens’ rights to the area and communicated to the governments of

Britain, France, Australia and New Zealand a similar reservation regarding air navigation in Antarctica as well as any other question of territorial sovereignty (Documents 1-7, Axton et al. 1956, 12–23).

The latter communication was a response to the 1938 agreement reached between France and Australia regarding the reciprocal right of aerial passage that was part of the definition of a common boundary between the French Adélie Land sector and the Australian Antarctic Territory (See *Figure 7*). While the British limited themselves to taking notice of the communication, the French reacted expressing ‘fear that misunderstanding exists in the mind of the American authorities, as to the unquestionable sovereign rights which France has acquired over Adélie Land’ (Enclosure to Doc. 5, Axton et al. 1956, 18). The American response was categorical in rejecting those ‘unquestionable’ rights, emphasising that: ‘d’Urville did not even land on the coast claimed for France by him, nor has any French citizen visited the area south of the 60th parallel south latitude and between the 136th and 142nd meridian east longitude since then’ (Document 6, Axton et al. 1956, 20) and stating that the US government would not admit any claim based merely on discovery.

To forestall the actions of other powers, Roosevelt decided to organize an official expedition of large proportions involving the State, Interior, and Navy Departments, and the Coast Guard.²⁴⁵ Roosevelt’s idea was to settle two semi-permanent bases on opposite sides of the continent, one in Byrd’s Little America settlement and the other on the Enderby coast—where Ellsworth was working at that time—which would be occupied on consecutive years during the summer season.

Roosevelt thus decided to consult with his old friend Byrd, at the time the American explorer with the most extensive experience in Antarctic matters, and sent him a letter through the State Department. Instead of merely offering his assistance, Byrd proposed abandoning his own private expedition and joining the proposed government one. The government accepted and named him leader of the expedition. He was joined by Black and other officials on February 1939 to plan the expedition. Instead of summer-only bases, the resulting plan envisaged the installation of two

²⁴⁵ History and Current Status of Claims in Antarctica, *Op. Cit.*, p.23.

permanent bases and the development of an extensive programme of scientific research and geographic exploration, to which was added the installation of post offices with the respective appointment of US postmasters as a means to strengthen future territorial claims.

As designed, the plan provided for the scientific colonization of Antarctica by the US government with geographers in the lead (Day 2013, 333). Geographical discovery and mapping was considered the main objective. Another important research goal would be the determination of possible mineral resources that could economically justify the settlements, and the programme would be complemented by physical, biological and meteorological studies of the continent. In contrast to the German *Schwabenland* expedition, scientists were not to be assigned only by the government, and private explorers and scientists would be considered on a volunteer basis.

By April, news of the German activities had reached the US through the German News Office. The report stated that: ‘The expedition is considered to have been a great success and well worthy of Germany’s great achievements in the past in Antarctic exploration. The scientific results of the expedition are also said to have been exceptionally good.’ (*The Schwabenland in the Antarctic* 1940, 95:53) Despite the German pretension to have explored ‘an unknown part of the Antarctic’, the January 1940 edition of *The Geographical Journal* refuted that fact by acknowledging the work of Bellinghausen in 1820, Biscoe in 1831, the *Quest* (Shackleton) in 1922, the *Thorshammer* (Christensen) in 1931 and the *Discovery II* just a few weeks after Ritscher’s expedition. In addition, they downgraded the work undertaken by Ritscher and his team in terms of its technical precision, particularly because of the absence of ground control points, and called attention to the fact that the alleged discovered land was one ‘on which no German has ever set foot’ (*The Schwabenland in the Antarctic* 1940, 95:54). Knowledge of the territory, both theoretical and practical—in the sense of experience—was a field in which one could debate about the appropriation of the Antarctic, both from its symbolic and material aspects. Finally, the journal discarded any pretension from part of the German government that Germany’s reservation in front of the Norwegian claim would also preclude Germany from having any rights

based on its act of flying and dropping flags over the territory. But despite the misgivings of many academics around the world, in Berlin the expedition was considered a complete success from a political point of view (Murphy 2002, 204).

The news of German activities facilitated the US Congress approval for the Antarctic plans (Day 2013, 336–337). However, some political and bureaucratic obstacles remained. If the US was to outmanoeuvre the Germans, it would need to act fast. Keeping the press in relative darkness about the real plans—they let it be known that they were heading to the American explored region—the government proceeded with its plan for the ‘colonization’ of Antarctica and Heard Island, south of the Indian Ocean. Nonetheless, Congress’s final approval of the money didn’t arrive and Byrd grew impatient as the year advanced and he had to finance the basic expenses of the organizational work himself. Some concerns started to arise about the suitability of such a grand scheme when the country was still recovering from the economic crisis, and tensions in Europe were suggesting a new military conflict.

The announcement of the expedition plans, even though imprecise about the nature of the US objectives, gave rise to concerns in Argentina and Australia. The latter had been studying the possibility of establishing a permanent base on the continent since 1938 under the initiative of Mawson and Wilkins, and had acceded to buy Ellsworth’s ship, the *Wyatt Earp*, in view of that possibility. Mawson’s scheme provided that the Australian government would be in charge of the transportation and relief of the personnel of the base or bases, while the operation costs would be financed through other sources. However, as he would later come to realize, the context was not as favourable as he expected, and the financial resources never came forward.

In June, the news that the Germans were planning to return to Antarctica and install a permanent base, most likely in the so-called ‘Pacific Quadrant’, did not dissipate the remaining hesitations within the US Congress, and the committee voted narrowly against the required additional funding. In an attempt to keep his plans alive, Byrd called on Congress to incorporate Antarctica into the Monroe doctrine—an idea that would have important repercussions with the Latin-American countries—and announced his intention to sail south even if required to do so under a private

character. Further support from the State Department did not solve the question and the whole project seemed to sink when the committee rejected the proposal for a second time. In the end, the insistence of Byrd, the State Department and the Interior Department paid off, and on 30 June 1939, the funding for the expedition was approved. In order to give a permanent character to the designation of the expedition, Roosevelt later suggested that upcoming US activities in Antarctica be known as 'The United States Antarctic Service' (Document 9, Axton et al. 1956, 27).

That same month, in Argentina, President Dr. Roberto Ortiz formed a provisional 'Antarctic Commission' designed to inform the government on issues related to Antarctica and coordinate and assess the country's participation on the Bergen exhibition. The commission was formed by Dr. Isidoro Ruiz Moreno, specialist in international relations; the engineer Alfredo G. Galmarini of the Ministry of Agriculture; and Captain Francisco J. Clariza from the Argentine Navy. The presence of the Ministry of Agriculture was justified by the dependence of the Laurie Island observatory on that office, while Clariza had been commander of the *Primero de Mayo* on the 1929 relief operations. Notably, there were no representatives from national scientific and academic institutions.

Also, science was not a privileged aspect of the US expedition's inception and organization, due to the political nature of its objectives. Instead, the expedition was designed around its political goals, under which the scientific programme had to be fitted. In order to do so, the committee for the expedition summoned some of the most important American scientific associations in order to develop the scientific programme for the expedition. In late July, the National Research Council of the National Academy of Sciences called for a conference, with Bowman presiding, and discussed a draft programme that included auroral, cosmic ray, meteor, geological, glaciological, geophysical, magnetic, biological and medical observations. Eco soundings were the only observations contemplated on oceanographic work and meteorology was left for future development.

Despite Byrd's continuous assertion of the scientific character of the expedition, the two South American countries, Argentina and Chile, started to fear that the US attitude could complicate even further their pretensions in Antarctica.

However, the State Department was pursuing a strategy of collaboration with both countries and, in late July, had asked the Argentine government through its Ambassador in Washington if Byrd's expedition could be furnished with meteorological data from the Argentine observatory on Laurie Island, suggesting at the time that continuous interchange of meteorological information be established between said observatory and the US Antarctic bases (Document 10, Axton et al. 1956, 28). The suggestion was received with favour within the Argentine government and was accepted by the director of the Meteorological, Geophysical and Hydrographic Service in Argentina, Dr. Alfredo Galmarini, who committed to develop a specific plan to that end (Document 11, Axton et al. 1956, 30).

On 8 August 1939, the Acting Secretary of State of the US sent a communication to the Diplomatic Officers in the American republics in order to inform them about the scope and objectives of the expedition, assuring them that the objectives of the expeditions were those of complementing the already existing knowledge about Antarctica and studying the possibility of permanent or semi-permanent settlement. It was further assured that US activities in Antarctica would not 'prejudice in any way the rights and interests that any American Republic may have on the Antarctic regions' (Document 12, Axton et al. 1956, 31–32).²⁴⁶

In September, in view of these developments, the Chilean government decided to take a more assertive attitude and, following the Argentine example, designated an Antarctic Commission to study the question of Antarctic interests and rights, and to inform the government on those issues. The Commission aimed to study Chilean titles to Antarctica and was placed under the hierarchy of the Ministry of Foreign Affairs. Was originally composed by Julio Escudero, a prominent specialist in international law, and Commander Enrique Cordovez Madariaga, a retired naval captain who acted as director of the Hydrographic service (Howkins 2008b, 48–49).

²⁴⁶ Cantilo to Armour, 9 March 1940. Expediente n°11 - Memorandum Confidencial de la Embajada de Estados Unidos de América sobre la Expedición de Byrd a la Antártida: AH/0003/10. AHC-MRE/ARG. Also, Chile Embassy in Washington to Minister of External Affairs, 23 February 1940. Embajada de Chile en EE.UU. – Oficios Confidenciales, 1940-1941: Fondo Histórico/Vol. 1823. AGH-MRE/CHL.

Back in the United States, the delays in Congressional approval for the funds had left the expedition with a very tight schedule if they were to sail that season and, as all efforts were rushed to make the expedition ready, the scientific programme fell into oblivion. Byrd's plan had been subject to much criticism and financial restraint, as the war in Europe and the probable abandonment of German's Antarctic plans for that year had removed from the expedition its main justification.²⁴⁷ Nevertheless, the US Antarctic Service was ready to set sail at the end of November, and on the 25th Roosevelt sent the official instruction to Adm. Byrd, with an agreed modification on the location of the bases. One, the East Base, would be located in the vicinity of Charcot Island or Alexander I Land, while the other would be located on the east shore of the Ross Sea or near Little America in case the first resulted in being unpractical (Document 14, Axton et al. 1956, 34–38). Unlike the original plan, the new plan contemplated the installation of a base on the sector pretended by both South American countries and included within the FID.

At the beginning of December, with Byrd's expedition ready to sail to Antarctica, the Argentine Ministry of Foreign Affairs approached the US Ambassador in Buenos Aires to enquire about the possibility of attaching two Argentine naval officers to the expedition (Document 15, Axton et al. 1956, 39).²⁴⁸ The request was justified as an opportunity to acquire experience to develop the Argentine meteorological service, but the Americans were unable to fully comply due to the limitations on space on the bases and the impossibility of adapting their plans at the last moment. It is unclear if the Argentine request and the US partial refusal were motivated by political motives, but the US government offered accommodation on one of the ships²⁴⁹ for the voyage in and out to East Base—the one located within the area of interest of Argentina and Chile (Document 19, Axton et al. 1956, 42).

²⁴⁷ The invasion of Poland by the Nazi and Soviet troops was initiated on 1 September 1939, and motivated the declaration of war by England.

²⁴⁸ It has often been implied that the participation of Chilean and Argentine officials was the result of a spontaneous invitation from the USA to appease these countries (Howkins 2008b, 54; Fontana 2014, 99), but the documentation available suggests that it was Argentina which took the initiative and that the invitation to Chile arose as a way to balance the offer made to the Argentines.

²⁴⁹ As the ships were already heading south, the officers should embark at Valparaíso, Chile.

The Argentine request seems to have moved the US government to consider making a similar offer to the Chilean government. In late November, Professor Humberto Barrera Valdebenito of the University of Chile had enquired the US Ambassador in Chile about the possibility of joining the US Antarctic Service to conduct some investigations in Antarctica (Document 18 Axton et al. 1956, 43–44). While for the same reasons as in the Argentine case, the US Antarctica Service were unable to offer a place in the bases for conducting research, it replicated the offer made to Argentina, in the sense of offering accommodation on one of the ships for two officers or other personnel designated by the Chilean government to join the outward and inward voyages to East Base.

In January 1940, the US Department of State communicated to the Argentina and Chile governments the view of the US government that if the existence of exploitable natural richness in Antarctica was proven, the US was willing to reach an agreement with the other American republics in order to guarantee equal opportunity of access and use.²⁵⁰ In addition, it was also stated that, in order to forestall the interest of extra-continental powers, the ‘American sector’ of Antarctica would be put under the administration of a single nation, under the assumption that the United States would be the most suitable candidate. The US move to form an American coalition was in direct conflict with the British claim to the FID, but also with the historical position of Argentina and Chile. Despite the evident intention of the United States to monopolize the American sector claim, the Argentine Antarctic Commission considered that, since Byrd was exploring the so-called ‘Pacific Quadrant’, the alleged claim would not prejudice the area of interest of Argentina and recommended welcoming the US attitude towards the open door policy, despite some anxieties regarding the possible clash of interests between Chile and the US.²⁵¹ However, in March, in a more sensible move, the Minister of Foreign Affairs Jose María Cantilo,

²⁵⁰ Memorandum Confidencial, 12 January 1940. Expediente n°11 - Memorandum Confidencial de la Embajada de Estados Unidos de América sobre la Expedición de Byrd a la Antártida: AH/0003/10. AHC-MRE/ARG.

²⁵¹ Memorandum Confidencial de la Comisión Consultiva Argentina, 3 February 1940 and Comisión Antártica Argentina to Minister of Foreign Affairs, undated. Expediente n°11 - Memorandum Confidencial de la Embajada de Estados Unidos de América sobre la Expedición de Byrd a la Antártida: AH/0003/10. AHC-MRE/ARG.

replied to the US Ambassador thanking him for the declared intention of ensuring to all American republics access to any potential resources, guaranteeing a similar attitude from Argentina, but also stating that his government: 'claim[s] as belonging to it and under its sovereignty, some Antarctic regions, in which it would be very sensitive any clash of interests with the United States'.²⁵² As a final note, it was highlighted the cooperation reached on the US Antarctic Service through the meteorological reports of the Observatory in Laurie Island and the invitation of the two Argentine officials to embark on the expedition.

In contrast to the previous 'suggestions' by the US government about private citizens claiming all discovered land, the US Antarctic Service had an explicit directive of performing acts of claiming along all explored territory. The official nature of the expedition resulted in the exercise of a mandate for buttressing US territorial rights above other declared objectives. That was expressed in the increased number of claims performed, which rose from single figures on Byrd's 1929-1930 expedition and each of Ellsworth's expeditions of 1935-1936 and 1938-1939, to 24 claims for the two-year expedition of the US Antarctic Service.²⁵³ The attitude did not respond to an abandonment of the Hughes doctrine but to the acknowledgement that any future claim should be supported by active occupation of the discovered land.²⁵⁴ To avoid conflicting with the non-recognition policy of the US, it was instructed that no announcement or comment of such acts of claiming be made without specific authority from the Secretary of State.²⁵⁵

²⁵² Cantilo to US Ambassador, 9 March 1940. Expediente n°11 - Memorandum Confidencial de la Embajada de Estados Unidos de América sobre la Expedición de Byrd a la Antártida: AH/0003/10. AHC-MRE/ARG.

²⁵³ Claims, undated. US Antarctic Projects Officer - Records Relating to Antarctic Claims 1929-1957. Records of the Office of the Secretary of Defense: RG 330. NARA/USA, MD. There are discrepancies between the information provided in that document and in 'History and Current Status of Claims in Antarctica' where it is stated that such expeditions would have deposited only a single claim. However, the documentation reviewed on the record has provided evidence that the first document figure is correct.

²⁵⁴ History and Current Status of Claims in Antarctica, *Op. Cit.* p.23.

²⁵⁵ History and Current Status of Claims in Antarctica, *Op. Cit.* p. 24.

Scientists were required to keep detailed journals, but all material, including private diaries, had to be handed to Byrd as commander of the expedition. Confidentiality meant that the expeditioners were not allowed newspaper or any other lucrative contracts and any account of the expedition would be handled and monopolized by the Executive Committee of the expedition (Day 2013, 350). But what was expressive of the subordination of scientific objectives to the political aims of the expedition, was the neglect in elaborating an official scientific programme to coordinate scientific activities. The works inaugurated with the Conference held in the National Academy of Science did not continue afterwards, and it was only in January 1940, when required by a Congressional committee, that the heavily equipped and manned expedition realized that deficit (Day 2013, 351). The Executive Committee of the expedition rushed to draw up a programme to satisfy the Congressional committee, under the promise that it was elaborated in cooperation with the National Academy of Science, something that evidently was considered necessary to gain legitimacy under the scrutiny of Congress. That fact suggests that, despite the expedition having science as a rather secondary objective, the legitimization of science and the role of credited scientific institutions were still relevant within the domestic political scenery of the US.

The expedition was of a scale never seen before in Antarctica. It was formed by two ships, the *USS Bear* and the *USMS North Star*; dog sledges; a huge 'snow cruiser', which was designed to accommodate several men with living quarters in its interior and hold a plane on its upper deck; two Curtis Condor aeroplanes equipped with skis for operating on ice; a Barkley Grow seaplane; two tanks and two tractors lent by the US Army. More than 100 men were involved in the operation with more than 59 men and 130 dogs wintering in both bases. In January 1940, the expedition established the West Base, under the command of Paul Siple; while the East Base was established in March, under the command of Richard Black (Broadbent and Rose 2002, 244). During their stay, biological, geological, glaciological, meteorological and magnetic studies were conducted, while the oceanographic work had to be put aside. The huge snow cruiser proved to be unpractical and was abandoned shortly after they

arrived, so they needed to rely on the dog sledges to traverse by land and the aeroplanes for aerial photographing and recognition.

Picture 23: Admiral Byrd taking observations with 'dip circle' on Drygalski Ice Tongue



Source: Carroll, A. J. Ca. 1940; USAS 1939.org

The US Antarctic Service was designed as a two-year campaign that would be part of a continuous occupation of Antarctica, but when Congress was asked for additional funds for the second year at the beginning of 1940, the request was denied. The expedition had lost its appeal despite Secretary Hull calling attention to the fact that ‘considerations of continental defence make it vitally important to keep for the 21 American Republics a clearer title to that part of the Antarctic Continent south of America than is claimed by any non-American country’.²⁵⁶ Byrd was already heading back to the US as was previously arranged, while the others were left to the task of completing their surveys and research. However, with little to report due to the secrecy and the war in Europe advancing rapidly, the public and Congress had little interest in the Antarctic endeavours, and not even the support of Roosevelt was enough to secure the necessary funds.

²⁵⁶ History and Current Status of Claims in Antarctica, *Op. Cit.* p. 23.

With support fading at home, the US position regarding Argentina and Chile wasn't enhanced. Referring to the Monroe doctrine in relation to Antarctica was resisted as it implied a certain southern imperialism by the great North American power, even though sometimes it was invoked as a more general concept referring to the importance of Antarctica for hemispheric defence. In addition, the position of the US of appealing to 'all 21 American republics' was considered as inappropriate—or even ridiculous—by both countries, as it was considered that only Argentina, Chile and the United States had some right to Antarctica.²⁵⁷

For both South American countries it was time to act. The proposal for the Bergen exposition was seen as an opportunity to raise the issue in an international forum, with the Argentine National Antarctic Commission planning to present the political issue at the Conference,²⁵⁸ despite declarations to the contrary by the organizers. However, its suspension as a consequence of war had left them with little to expect on that regard. The Nazi challenge to the post-war order had questioned the dominant hegemony, while German geopolitical thinking based on the idea of geographical spheres of influence and 'natural' expansion spread among other nations, including the Latin American republics. The French-British accord regarding the Australian and French sector, the Norwegian claim and acceptance of British claims and the correspondent later reciprocal recognition of the Norwegian claim to Queen Maud Land seemed to pose a unified front against the pretensions of other countries such as Argentina and Chile. At the same time, US actions suggested that while they didn't intend to confront their continental neighbours, they remained adamant in retaining their freedom of manoeuvre. In other words, it was one thing to claim the 'American Sector' under the administration of the US on behalf of all the American republics—the idea entertained by the US State Department, and another thing completely to support the two South American countries against the British claim.

²⁵⁷ Bianchi to Chile's Ambassador in the US, 19 December 1940. Embajada de Chile en EE.UU. – Oficios Confidenciales, 1940: Fondo Histórico/Vol. 1823. AGH-MRE/CHL.

²⁵⁸ Argentina Listing Antarctic Claims, *New York Times*, 27 July 1939. In: Antarctic Argentina: A981/ANT45. NAA/AUS.

That context posed not only a necessity, but also an opportunity for both countries. By Decree N° 61,852 of 30 April 1940, the Argentine National Antarctic Commission was granted a permanent character, under the authority of the Minister of Foreign Affairs and with the objective to ‘centralise and be responsible for the consideration and handling of all matters connected with the defence and development of Argentine interests in the Antarctic or in the Antarctic continent’.²⁵⁹ With the European powers immersed in the war efforts, the time was propitious to take the initiative.

In May of that year the Commission elaborated a detailed report including information about the historical, legal, economic and natural characteristics of Antarctica. The report recommended entering into negotiations with Chile regarding a common Antarctic border; the development of a permanent exploration programme, including a preliminary exploration for the 1940-1941 season; the installation of two additional observatories on the Antarctic Peninsula region; the refitting of the observatory in Laurie Island; the creation of a permanent exposition in the Argentine Museum of Natural Sciences about Antarctica; the study of economic prospects of Antarctic natural resources; the construction of an oceanographic vessel with polar navigation capacities; the establishment of a legal framework for activities in the Antarctic region under the administration of Argentina; the call for an international conference in Buenos Aires to debate the political aspects of Antarctic sovereignty and the diffusion of information regarding Antarctica in Argentine schools.

As can be seen, the report included a political, economic and cultural agenda. The economic relevance of the continent was concentrated on developing whaling and relativizing the present prospects of mineral activities on the continent.²⁶⁰ Thus, priority was given to the development of fisheries, recommending the establishment

²⁵⁹ Argentine Decree No. 61,852.M.97... Enclosure to Cranbourne to the Prime Minister of Australia, 15 October 1940. Antarctic Argentina: A981/ANT45. NAA/AUS and Expediente N° 45 - División Antártida y Malvinas – Antecedentes sobre la Comisión Nacional del Antártico: AH/0009/21. AHC-MRE/ARG.

²⁶⁰ The existence of minerals in Antarctica is not discarded, but the economic prospects of its economic development is questioned. See: Parte II, Expediente N°45, *Op. Cit.*

of oceanic laboratories and the conducting of extensive oceanographic work; it was also recommended that the existence of mineral resources and its potential economic development be studied. In that regard, even when Argentine interests were defined *a priori* and related with its 'rights' to Antarctica, the information regarding its potential economic resources was considered paramount in defining its political position, and information regarding those issues was still too scarce.

In terms of the political aspects, the agreement with Chile was seen as the first fundamental step and one which was considered as viable in the short run. However, it was also considered that simple declaration acts would not be sufficient to sustain an Argentine claim, for which a programme of permanent presence in Antarctica should be pursued. The first step would be to launch an expedition for the 1940-1941 season to study the possible locations for two observatories in the east—on the Weddell Sea—and west of the Antarctic Peninsula. The scheme resembled in a way the plan originally proposed by the IGA,²⁶¹ in which the idea of a 'triangle' of observatories would provide important meteorological and other scientific data, therefore contributing to international science, to the elaboration of weather forecast for the whole South American cone, and to training young scientists.

Regarding its strategic importance, Antarctica was seen as holding no current military relevance, but it was also considered that developments in air transportation could come to change that. The idea was that the rapid development of air transportation was making transpolar flight possible which had commercial as well as military uses. Thus, it was considered that such strategic importance could not yet be discarded.

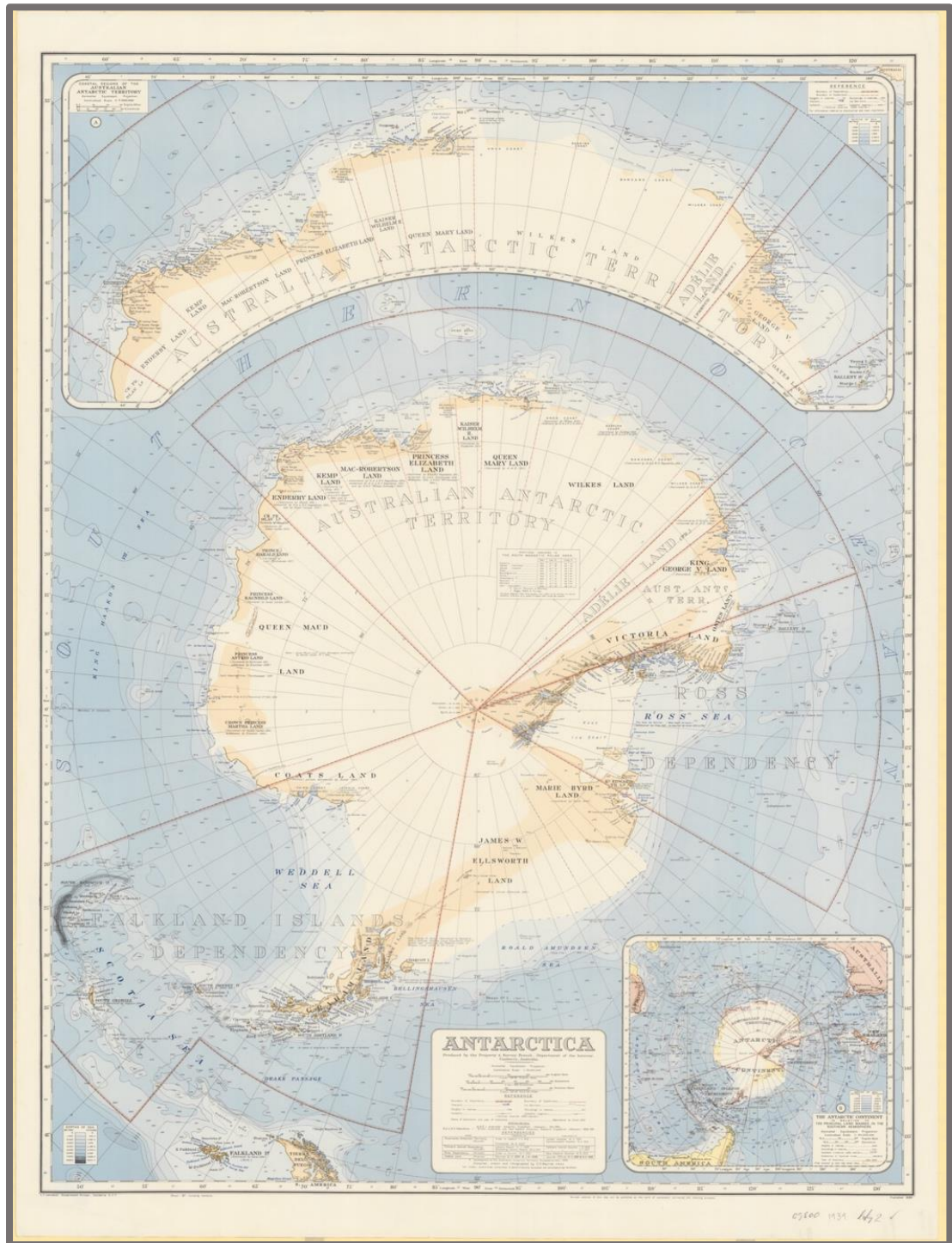
Additionally, the suggestion of introducing a cultural aspect to develop an Antarctic consciousness is something that would be characteristic of Argentine politics on Antarctica in the next decades.²⁶² The recommendation of a permanent

²⁶¹ The only difference being the location of the third observatory, which in the case of the IGA project was the observatory at South Georgia.

²⁶² Usually, this characteristic has been identified with Perón's Nationalism. However, it seems to have responded to a more extended process and an intentional design arose from the CAN recommendations.

exhibition in the Museum was oriented to arouse the public interest and consciousness while the introduction of information in schools would secure that such interests be firmly established in future generations.

Picture 24: Australian Map of Antarctica published in 1939 showing the British and French claims



Source: Ca. 1939. National Library of Australia, Australia

The establishment of the Commission had raised some concerns from the British side, including Wilkins's insistence on establishing a permanent base,²⁶³ which was refused by the Australian government.²⁶⁴ Nonetheless, by the middle of July, the British Embassy in Buenos Aires delivered a note enclosing a map of the Antarctic issued by the Australian government reflecting all British claims (Fontana 2014, 108). The Argentine government responded by stating its non-recognition of any Antarctic claim and emphatically rejecting the British claim to the FID, particularly based on its long-term protest against the British holding the Falkland Islands (Malvinas) which was used as a basis for extending its dominion over the Antarctic regions.²⁶⁵ Also, following the Commission's recommendation, the Argentine government published a map including a sector between 25° and 74° west, south of the 60° of latitude south as comprising the Argentine Antarctic sector (See *Figure 9*).

The Argentine map motivated a protest from the Chilean government, which added to the American activities and the British advancements, ended up motivating, on 6 November 1940, the issue of the Decree 1747 which declared as under Chilean sovereignty the sector between 53° and 90° west longitude lying south of the 60° south parallel (See *Figure 9*). Since the beginning of 1939 the Chilean government was enquiring of different departments which 'sector' could be rightfully claimed by Chile in case an international conference was called for settling the Antarctic question. With that possibility in mind and with little to show in case that such a conference took place, it is not surprising that the Chilean government opted to take the initiative as a way to force its participation at the negotiation table and to have some bargaining power. Officially, the initiative was justified to the Argentine and US governments as having derived from a note from the US Ambassador in Santiago to the Chilean government which was interpreted as backing up a Chilean claim to Antarctica.²⁶⁶ On

²⁶³ Wilkins to Macgregor, 25 July 1939. Antarctic Argentina: A981/ANT45. NAA/AUS.

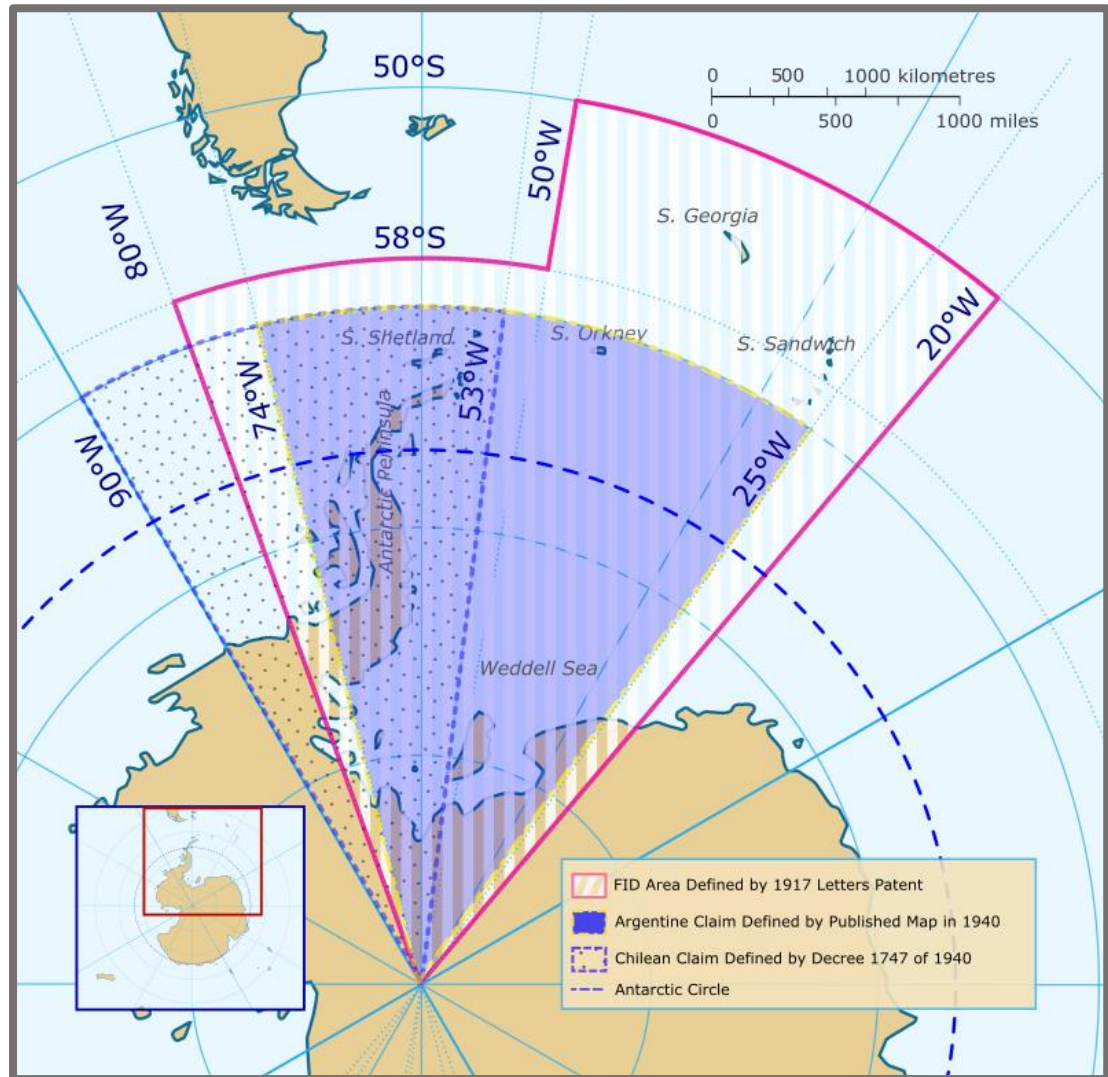
²⁶⁴ Secretary of External Affairs to Macgregor, 28 September 1939. Antarctic Argentina: A981/ANT45. NAA/AUS.

²⁶⁵ Enclosure translation of Argentine note of 11 September 1940 on Ovey to Halifax, 13 September 1940 [Buenos Aires despatch n°251]. Antarctic Argentina: A981/ANT45. NAA/AUS.

²⁶⁶ The argument of an error of translation is advanced by Howkins (2008, pp. 55-56; 60) and it was effectively put forward by the Chilean government in explaining its actions (See: Lacasa to Minister of Foreign Relations, 7 November 1940 [Telegrama Cifrado N°1114]. Expediente N° 14: Soberanía

11 December, the Minister of Foreign Affairs, Manuel Bianchi, further instructed the Minister of Defence about the need to include the recently claimed territory in any map or publication they made that included the national territory.²⁶⁷

Figure 10: Sketch Map of Overlapping Claims to Antarctica by Argentina, Chile and UK



Source: Elaborated by the author.

The decree was a serious blow to the Argentine hopes of forming a common front with the Chileans. First of all, since the middle of the year the Argentines had

en Tierras Antárticas - Pretensiones Chilenas, 1940: AH/0003/2. AHC-MRE/ARG). However, I have found no evidence on the documentation consulted during this research than such mistranslation had actually occurred, and it is possible that it has been used as a justification in front of the Argentine and US disgust.

²⁶⁷ Bianchi to Minister of National Defence, 11 December 1940. Ministerio de Defensa – Oficios Confidenciales, 1940: Fondo Histórico/Vol. 1875. AGH-MRE/CHL.

been formulating a declaration to be proposed to the Chilean government in which they mutually recognized their claims to Antarctica.²⁶⁸ Secondly, the defined east boarder at 53° west latitude was far east of what was expected by the Argentines,²⁶⁹ on about 67°.²⁷⁰ The immediate reassurance by the Chilean government that the decree was not aimed to prejudice Argentine rights in Antarctica did not placate the aversion caused in the government and the public, and even led the Chilean Embassy in Buenos Aires to recommend that national aviation suspend all flights over Argentine territory until the mistrust could be overcome.²⁷¹

The US adopted a rather dualistic attitude, expressing a strong disgust to the Argentine government about the Chilean action,²⁷² but manifesting a mild acceptance to the Chilean representation.²⁷³ The traditional policy of non-recognition of rights allowed the United States to both avoid recognising Chile's claim or confronting it through a counter-claim or protest. But the Chilean decree was something that surely ended any hope the US still had on advancing an American republics condominium to the 'American Sector' of Antarctica.

The British strongly protested against the claim of a great part of their already claimed FID, pointing out the complete absence of Chilean activity in the region. The

²⁶⁸ See: Expediente N° 14: Soberanía en Tierras Antárticas - Pretensiones Chilenas, 1940: AH/0003/2. AHC-MRE/ARG.

²⁶⁹ See: Clarizza to Mignone, 8 June 1940. Expediente N° 10: Soberanía en Tierras Antárticas – Informe sobre los Límites del Sector Antártico Argentino: AH/0003/9. AHC-MRE/ARG.

²⁷⁰ This was so far away from what was expected that, in a telegram from the Argentine representation in Santiago reporting the verbal note delivered by the Ministry of Foreign Relations informing about the Chilean Decree, the original '53°' meridian was circled in red pencil and noted '73' below. See: Lacasa to Minister of Foreign Relations, 6/7 November 1940 [Telegrama Ordinario N° 2112]. Expediente N° 14: Soberanía en Tierras Antárticas - Pretensiones Chilenas, 1940: AH/0003/2. AHC-MRE/ARG.

²⁷¹ Ruiz to Under-Secretary of Aviation, 4 December 1940. Ministerio de Defensa – Oficios Confidenciales, 1940: Fondo Histórico/Vol. 1875. AGH-MRE/CHL.

²⁷² Espil to Roca, 9 November 1940. Expediente N° 14: Soberanía en Tierras Antárticas - Pretensiones Chilenas, 1940: AH/0003/2. AHC-MRE/ARG.

²⁷³ Bianchi to Chilean Ambassador in Washington, 19 December 1940. Embajada de Chile en EE.UU. – Oficios Confidenciales, 1940: Fondo Histórico/Vol. 1823. AGH-MRE/CHL.

idea of annexation by a mere decree was even mocked in some journals.²⁷⁴ Nevertheless, the Chilean decree was one more challenge to British sovereignty over the FID, something that, outside of the Argentine hold on Laurie Island, the British considered as relatively secured.

Although the contention over the Antarctic Peninsula was rising, the Argentine expedition programmed for the 1940-1941 summer did not eventuate due to financial reasons. The Navy had already committed one of its vessels, men and supplies, but the Antarctic Commission failed to obtain the remaining funds for establishing the bases. Despite the Chilean decree, the sense of urgency expressed by the Committee seemed not to be shared by the Argentine Treasury and, as the delays extended to the first month of 1941, the Ministry of the Navy decided that it was better to postpone the expedition until the next season.²⁷⁵

By that time, German raiders—military vessels disguised as civilian ships—were hunting Allied vessels as a way to interrupt essential supplies for their war effort; being particularly effective in the southern oceans where the Allied whaling fleet was operating. During their operations in those waters, they used the French Kerguelen and Crozet Islands as temporary bases. The operations of the raiders drove the British to conduct some patrol operations on the Antarctic and sub-Antarctic islands, and to conduct a ‘scorched earth’ policy as a way to deny any resource to the enemy fleet. In March 1941, the *HMS Queen of Bermuda* destroyed the remaining oil and coal stock as well as the power plant (Fontana 2014, 128) at an abandoned whaling station on Deception Island.²⁷⁶ Despite that such action was a concrete measure aimed to avoid

²⁷⁴ Chilean Embassy in London to Minister of Foreign Relation, 30 December 1940. 3er Trimestre – Oficios Ordinarios del Ministerio, 1940. Embajada de Chile en Gran Bretaña – Oficios Ordinarios Enviados y Recibidos, 1940: Fondo Histórico/Vo. 1834. AGH-MRE/CHL.

²⁷⁵ Minister of the Navy to Rothe, 26 February 1941. Expediente N° 12: Soberanía en Tierras Antárticas – Expediciones Argentinas al Antártico. Viaje del Primero de Mayo: AH/0003/11. AHC-MRE/ARG.

²⁷⁶ It corresponded to the Norwegian Hecktör Whaling Company.

their use by enemy ships,²⁷⁷ when the action was discovered by Argentina and Chile, it caused much consternation.

In the meanwhile, the strain between Argentina and Chile about the Chilean decree was ceding to a renewed joint action. While the British were destroying the whaling facilities at Deception Island, the president of the Argentine National Antarctic Commission, Dr. Isidoro Ruiz Moreno, and the Chilean Representative of the respective Chilean Commission, Julio Escudero Guzman, held a total of nine confidential meetings in which the respective positions of both countries were put forward.²⁷⁸ The meetings did not come to much agreement in regard to common juridical principles over which a common Antarctic border could be established and the proceedings actually revealed the deep differences existent between both countries.²⁷⁹ However, they served at least to establish some of the foundations on which Antarctic cooperation between both countries would develop. On the proceeding of its final meeting, both representatives agreed on the existence of an American Antarctica, to which Argentina and Chile would hold 'undeniable rights' as consequence of 'geographical, historical and legal antecedents besides other titles', 'derived from its proximity'. As such, the meeting served as a reassurance of mutual recognition of rights to the Antarctic sector located south of the American continent. In addition, the representatives committed their respective governments to continue the negotiations to define a common border in amicable terms and to cooperate on the undertaking of studies with respect to the physical conditions of Antarctica.

Nevertheless, the negotiations didn't continue. On his return, Ruiz Moreno confronted severe criticism from the same Commission he presided over and which

²⁷⁷ See for example folder: Deception Island. Possible use as an enemy fuelling base [M03325/41], 26 February 1941. Deception Island - Sovereignty in the Antarctic Regions (1939-42): ADM116/4662. TNA/UK.

²⁷⁸ There was a preliminary meeting in which general aspects of the work to be done were discussed.

²⁷⁹ For the proceedings of the meetings see: Copias de las Actas Firmadas en Santiago de Chile..., 4 June 1941. Expediente N° 16: Viaje a Chile del Consejero Legal del Ministerio y Presidente de la Comisión Nacional del Antártico: AH/0003/4. AHC-MRE/ARG.

he was representing during the talks,²⁸⁰ which motivated a lengthy and strong reply on his part.²⁸¹ Also, although the Argentine ship *Primero de Mayo* was being refitted to navigate the frigid waters of the Antarctic Peninsula the following summer, the plans for coordinated work on the study of the physical conditions of Antarctica came to nothing. In fact, the expedition was planned as an exploratory survey of the region in order to better study the place for installing a meteorological station and exerting some formal acts of taking possession. Despite the participation on the expedition of four scientists (one from the Ministry of Agriculture and three from the Museum of Natural Sciences *Bernardino Rivadavia*), there was no comprehensive plan or programme of scientific research. As a sign of that era's relationship between science and Antarctic endeavour, scientific research was pondered by its symbolic and political impact.

The Argentine 1942 expedition was marked by confidentiality. After relieving the Laurie Island base, they headed to Deception Island, where they examined the recently destroyed abandoned installation of the old whaling station. Subsequently, they conducted an aerial recognition and photographed the island, taking the opportunity to paint a big Argentine flag on one of the abandoned tanks, install a pole with an Argentine flag and deposit a bronze plaque and a cooper cylinder containing a proclamation in the name of the Argentine republic. After that, they navigated around the Antarctic Peninsula, performing other acts of formal taking of possession²⁸² and installing a light beacon on the Lambda Island of the Melchior Group. Later on, the Argentines informed the Chilean government about those acts, with the comment that it was not in any way directed to lessen the Chilean rights in Antarctica or to constitute any impediment on the continuance of the Argentine and

²⁸⁰ See: Comisión Nacional del Antártico – Dictamen de los Miembros Técnicos, 7 May 1941. Expediente N° 16: Viaje a Chile del Consejero Legal del Ministerio y Presidente de la Comisión Nacional del Antártico: AH/0003/4. AHC-MRE/ARG.

²⁸¹ Ruiz Moreno to Ruiz Guñazú, 20 December 1941. Expediente N° 16: Viaje a Chile del Consejero Legal del Ministerio y Presidente de la Comisión Nacional del Antártico: AH/0003/4. AHC-MRE/ARG.

²⁸² These included the visit to the old Rymill hut on Argentine Islands, where they hoisted the Argentine flag and deposited another claim, and a similar performance in Dallman Bay of the Melchior Group.

Chilean negotiations; to which the Chileans replied by reserving all their rights to Antarctica.

Picture 25: Stearman 76-D-1 in Antarctica, used by the 1941-42 Argentine Antarctic Expedition



Source: Silva, Antonio, 1942. Histamar, Argentina)

At the conclusion of the expedition, a detailed report was produced including a description of the activities undertaken and an appraisal of the potential of the region. In accord with similar reports, the commander of the expedition reported that it was unlikely that natural resources of any value could be found in the region besides the marine living resources. Despite that, he recommended a multi-annual plan of systematic exploration, including geographical and hydrological survey as well as the study of economic potential. In concordance with that recommendation, the Argentine National Antarctic Commission urged

the organization of a systematic plan of expeditions that allows a permanent and organic materialization of both the affirmation of Argentine rights in these regions and the scientific research aimed at reinforcing the evidence of such rights beyond any controversy.²⁸³

²⁸³ Comisión Nacional del Antártico to Ruiz-Guiñazú, 21 October 1942. Expediente N° 12: Soberanía en Tierras Antárticas – Expediciones Argentinas al Antártico. Viaje del Primero de Mayo: AH/0003/11. Archivo Histórico de la Cancillería, Buenos Aires. (Own Translation)

The Argentine actions had put the British government in a conundrum. The presence of the Argentine fleet in what they considered one of their dominions was a serious offence and a challenge that they weren't willing to ignore, but the war effort imposed a severe limitation on the resources that could be spared for defending a distant possession of dubious value. Lengthy discussion took place in the second half of 1942, with the different departments within the government sustaining a diverse number of positions.²⁸⁴ There was the added fear that relinquishing the FID could lead the Argentines to take an aggressive action against the British holding of the Falkland Islands (Malvinas). In the end, it was concluded that the Argentine challenge could not be left without notice and that any formal protest had to be reinforced by a material action, even when a direct confrontation and the use of force had to be avoided. There were compelling reasons to avoid damaging the Anglo-Argentine relationship, not only because of the English capital invested in Argentina, but also for the strategic value of the imported meat from that country in the context of war. If necessary, it could be argued that any British expedition operating in the region was in search of Axis raiders. At the last minute it was decided that the *Carnarvon Castle*, a converted Merchant Cruiser would be sent with a representative of the British governor in Falkland Islands (Islas Malvinas).

The *Carnarvon Castle* left Port William in the Falkland Islands (Malvinas) at the end of January for its tour through the South Orkneys, where it visited the Argentine observatory in Laurie Island, and the South Shetlands, where they visited Deception Island. There, they performed formal administrative acts and removed all signs of Argentine presence, replacing them with signs of British possession. The removed objects were afterwards presented jointly with a note of protest by the British Embassy in Buenos Aires, where the British government expressed 'surprise' about the declarations found on those territories. The Argentine government replied restating its reservations about their legitimate rights and coinciding with the British government in keeping the incidents away from any publicity. The act of removing

²⁸⁴ Detailed documentation about this process can be found in: Case 6037: Argentine Encroachments in Falkland Island Dependencies, 1942-43: ADM116/4670. TNA/UK.

the other party's objects and delivering them with protest notes to the other party would become a common practice in the years to come.

Just a week after the return of the *Carnarvon Castle* to Port Williams, the *Primero de Mayo* along with two transport vessels, the *Pampa* and the *Patagonia*, sailed to Antarctica. On Ushuaia, two naval ships and two sea-aeroplanes stayed as 'covering force' in case of need. On board the *Primero de Mayo* were three Chilean observers, including the retired captain and advisor to the Chilean National Antarctic Commission, Enrique Cordovez Madariaga, invited by the Argentine government. During their trip they visited the Melchior group and the west coast of the Antarctic Peninsula, where they undertook scientific and hydrological work and took the opportunity to perform formal acts of sovereignty.²⁸⁵ On Neny Bay they installed another light beacon and a flagpole with the Argentine ensign. Afterwards, they headed to Deception Island, where they found British signs left in place to replace the Argentine ones. They similarly removed the British emblems and replaced them with Argentine ones, in addition to undertaking scientific work and establishing another beacon light.

While relations between the Argentine and the Chilean observers was mostly camaraderie—in accord with the official attitude, it seems that the Argentines were reticent of showing off to the Chileans any formal act of sovereignty. Also, a report by retired-Captain Cordovez let it be known that a certain mistrust and jealousy characterised the Chilean sentiment towards the Argentine activities.²⁸⁶ In addition,

²⁸⁵ They visited Byrd's abandoned base in Stonington Island where diverse elements with a note asking for retrieving and delivering the equipment to the US government were found. There are different versions about what happened with the elements retrieved. Day (2013) states that the Argentines pillaged the American base, while Fontana (2014) says that the elements were given back to the US government.

²⁸⁶ See: Enclosed Report presented by Captain (E) Enrique Cordovez In: Naval Attaché to Director of Naval Intelligence, 23 August 1943. Falkland Island Dependencies in the Antarctic: British expedition, Argentine encroachment and claim to sovereignty. territorial claims in the Antarctic, 1943-44: ADM116/4931. TNA/UK.

Cordovez's report was leaked to the British government, that made them aware of the Argentine activities and the existent differences between the South Americans.²⁸⁷

In June 1943, a military coup had taken power in Argentina and started a right-winged repressive plan of government that made the British wonder about the potential reaction of the even more nationalist military government to any British action in Antarctica. But as the public image of the Argentines was being denigrated by the course of its internal politics and its attitude of neutrality, the acknowledgement of a breach between the Argentines and Chileans and the favourable turn that the war started to take gave some confidence to the British to undertake a further step in securing dominion over the FID.

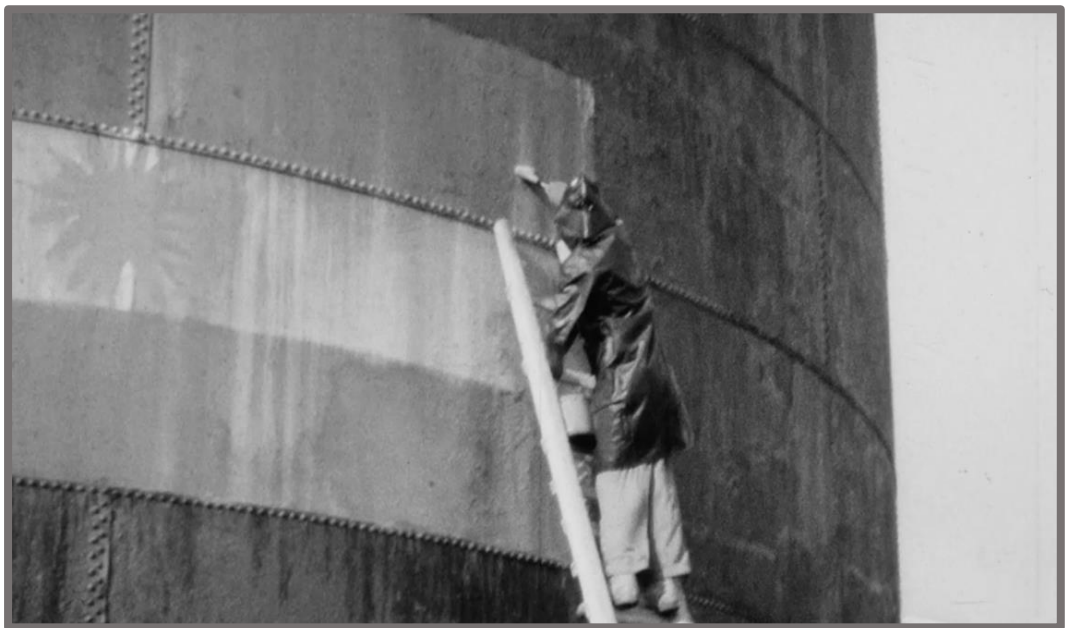
The 1943 *Carnarvon Castle* voyage was organized in a hurry as a means to preempt the Argentines from establishing a more definitive hold on what was considered a British dominion. The voyage of the *Primero de Mayo* had shown that what was considered as a relative secure holding of the FID, could be easily challenged. In order to strengthen their position, the British considered establishing permanent bases along what they defined as included within the FID territories, including the South Orkneys, South Shetlands and 'Graham Land'. Moreover, the war had showed the British government that challenges could come not only from Argentina, but also from Chile and the United States.²⁸⁸ Thus, it was thought that the progressive permanent occupation of Antarctica was becoming necessary.

²⁸⁷ In B. B. Roberts' 1945 Report, Cordovez seems to be responsible for the leakage of information ('Territorial Claims in the Antarctic...: A4311/365/8, *Op. Cit.* p.66). However, other documentation suggests that the informant was another person within the Chilean Navy. In particular, in: Naval Attaché to Director of Naval Intelligence, *Op. Cit.* it is said that: "The author [Cordovez] is not aware of our having had an opportunity to peruse it [the report], and should become so, he is bound to connect it with the person who enable us to do so." Even more, another document showed that despite Cordovez provided the British with information about the course followed by the *Primero de Mayo*, he was reticent to give further details and even "On being asked the object of the voyage Cordovez stated that this was purely scientific." (Argentine Chilean Antarctic Claim, undated [Circa middle/late 1943]. Falkland Island Dependencies in the Antarctic: British expedition, Argentine encroachment and claim to sovereignty. territorial claims in the Antarctic, 1943-44: ADM116/4931. TNA/UK.) Dudeney & Walton (2012, 351) also support my interpretation.

²⁸⁸ It must be remembered that Byrd's east base was established on Marguerite Bay, within the sector claimed by the 1908 and 1917 British Letters Patent.

The code-named Operation Tabarin was conceived as a naval expedition that would establish permanent scientific bases on the territories of the FID. An interdepartmental committee was formed to advance the organizational work, including James Wordie, polar expert, former explorer and chairman of the Scott Polar Research Institute, seconded to naval intelligence due to the war; and Neil Mackintosh, member of the Discovery Committee. Shackleton's companion twice and biologist of the *Discovery II*, Lieutenant James W. S. Marr, was designated leader of the expedition. The presence of the eminent academics on the interdepartmental committee was an indication of the complex combination of scientific profile and political decision-making that the war times had signalled. To those, Dr. B. B. Roberts, former member of the Rymill expedition, would soon be added.

Picture 26: British Party painting over the Argentine flag painted on an oil tank of Deception Island



Source: Image Capture from AD6/16/1944 [Movie] ca. 1944. BAS-A/UK.

Despite the military and confidential character of the expedition, the operations would be mainly scientific, not only to keep the base personnel active but also to provide substantial information about the economic potential of the region and offer a legitimate facet to the international opinion. If the need for justification arose, it was to be stated that the operation was to counteract the operations of Axis enemy vessels. However, as could be seen on the Instruction to the commander (and 2nd in command) of the expedition,

The main political object of the expedition is to establish parties on the islands concerned rather than to deny access to them to Argentine and/or Chilean parties. In order that a heated controversy with the Argentine and/or Chilean Government may if possible be avoided, or at any rate reduced to a minimum, force, in a sense implying the possibility of bloodshed or similar violence should at all costs be avoided.²⁸⁹

A broad scientific programme was elaborated for the operation by N. A. Mackintosh, of the Discovery Committee, but it seems to have remained unknown to the personnel of the expedition.²⁹⁰ The programme included geographical surveying and geological, meteorological and biological work, locating its main emphasis on the first, although it also stressed the importance of the discovery of fur seals and minerals of economic importance as well as meteorology.²⁹¹ The scientific personnel were recruited from universities under strict confidentiality and remained in relative ignorance of the main objectives and general plans of the expedition. In case they encountered a party of other nationality, the leaders of the bases were named 'Magistrate' of the government of the Falkland Islands, as a way to imbue them with administrative authority. They were instructed to avoid the disembark and establishment of parties of other nationalities or, if that proved impractical, the delivery of formal protests against such actions. But in the interchange with foreign parties it was suggested that comradeship and friendship at the personal level be pursued after the formalities of the diplomatic interchange were performed.

²⁸⁹ Instructions to Lieutenant Marr and Commander Marchesi, Undated. Falkland Island Dependencies in the Antarctic: British expedition, Argentine encroachment and claim to sovereignty. territorial claims in the Antarctic, 1943-44: ADM116/4931. TNA/UK and Operation Tabarin – Political Instructions, Undated. Regulations Operation Tabarin. Operation Tabarin: Minutes of Expedition Committee, Correspondence, Regulations, Telegrams, 1943: AD6/1/ADM1-3. BAS-A/UK.

²⁹⁰ In an interview for the Oral History project of the British Antarctic Survey, Andrew Taylor, second in command and afterwards leader of the Port Lockroy party of the 1944-46 Operation Tabarin repeats on several occasions that they had no programme of activities whatsoever. This could not have been the case and could be due to an effect on the memory, as the interview was made more than 40 years after. However, it seems that no great importance had been attributed to the scientific programme of the expedition, as there is little—if any—information regarding its discussion on the documentation pertaining to the organization of the expedition. For Andrew Taylor's account of the expedition: Interview to Andrew Taylor by Joanna Rae, 14 October 1987. Oral History Recording no. 6: AD6/24/1/6/2. BAS-A/UK.

²⁹¹ Programme of Work – Prepared by N.A. Mackintosh for the Operation Tabarin. B.B.Roberts - Correspondence and C'ttee Papers – FIDS: MS 1308/22/1. SPRI-A/UK.

Operation Tabarin reached Deception Island at the beginning of February 1944, where they proceeded to occupy the abandoned whaling station, leaving a wintering party of five men on what was designed Station B. Afterwards, they headed south to Hope Bay, where Station A was to be established, but they were impeded from reaching the bay due to the ice conditions. Faced with the impossibility of establishing Station A at Hope Bay as planned, they headed along the western coast of the Antarctic Peninsula up to Port Lockroy, where they were finally able to install the base, leaving nine men to operate it, including Lt. Marr. As on the previous occasion, all Argentine marks left at Deception Island and one of the islands around Port Lockroy were removed and replaced by British signs. As a symbolic act, special stamps from the Falkland Island government over-printed with the names of South Georgia, South Shetland, South Orkney and Graham Land were issued to be dispatched on the correspondence remitted from both bases.²⁹² Along with meteorological observations and reports, geological and topological surveys took place on both bases; activities that were considered as essential for strengthening the British title to those lands (Fontana 2014, 160–161).²⁹³

By the middle of 1944, it was known that the end of the war was a matter of time. Thus, plans for the continuance of the abandoned work started to be considered. That included the Discovery Committee, which had suspended the *Discovery* expeditions with the start of hostilities. However, much had changed since the original proposal of the Interdepartmental Committee on Research and Development. Despite the fact that it was expected that whaling prospects after the war would be good as a result of the halt on whaling imposed by the conflict, that would not necessarily result in revenues for the Falkland Island Research and Development Fund that had financed the Discovery Committee activities in the past. Whaling had become predominantly pelagic, and the need for shore stations had

²⁹² Outward Telegram A 9620/480/G - 88027/43 – Secretary of State of the Colonies to Cardinall, 19 October 1943. B.B.Roberts - Correspondence and C'ttee Papers – FIDS: MS 1308/22/1. SPRI-A/UK.

²⁹³ Lt. Marr specifically believed that those activities would strengthen the British title to those lands. See: First Report on the Work of Operation Tabarin – Part I The Work at Base A, 1943-1944. B.B.Roberts - Correspondence and C'ttee Papers – FIDS: MS 1308/22/1. SPRI-A/UK.

vanished since the 1930s, which meant that no licence was required. In addition, the prospects of subsidising the regulation of whaling activities through scientific research had been hampered by the inefficiencies of the different whaling agreements reached during the 1930s, that showed that the key issue was political, rather than scientific. Last but not least, the political background had already changed significantly. The emphasis on oceanographic and coastal work based on the needs of the whaling industry had made way for the surveying of the inner land and the study of its natural features as a way to support territorial claims. The relative hegemony of the British Empire of a great part of Antarctica had been challenged increasingly, not only through diplomatic channels but also through material actions that had put British primacy at stake.

Accordingly with that scenario, a Scientific Sub-Committee was set up to make recommendations. In the end, the Committee prepared a five-year programme that, in contrast to previous work, would emphasize general research of Antarctica, instead of whales.²⁹⁴ The proposal received support from the Colonial Research and the Polar Committees, but the difficulties in allocating the responsibility for its management and funding delayed its implementation. Manifestations of interest in supporting the proposal arose in the Australian, New Zealand and South African governments, and different options were studied. Nevertheless, the *Discovery* expeditions were not to be continued. Eventually, in 1949, the Discovery Committee was replaced by the Oceanographic Institute. The times had changed and, with them, the role of science in Antarctic endeavour.

After the first summer season Marr suggested another attempt to Hope Bay, requiring a vessel better fitted for ice-navigation, dog sledges and other equipment. After some consideration, Marr's plan was approved and the *SS Eagle* was sent to patrol the region and assist with establishing Station D on Hope Bay, while the *William Scoresby* proceeded to Coronation Island in the South Orkneys to establish Station C, which was left unoccupied because of lack of personnel (Howkins 2008b, 97). By that

²⁹⁴ Stanley to Woolton, 22 June 1945. CC Correspondence & Papers 1944-1949 -Discovery Committee, The Future of the Discovery Committee: MS 1284/12. SPRI-A/UK.

time, Marr had been replaced by Andrew Taylor as commander of the expedition, due to Marr's resignation.²⁹⁵

The domestic political turmoil seems to have prevented the Argentines from continuing their active challenge to British authority in the region in the last year of the war, at a time when the maintained neutrality was damaging its international reputation. However, being a station operated continuously for more than 40 years and constituting one of its main bases for claims in Antarctica, they continued the relief operations of the South Orkneys observatory. Knowing about the British operations despite the original secrecy—the operation had gone public due to the mail sent to England through Montevideo with the special stamps—the Argentines sent the *ARA Chaco* to the Laurie Island base to secure the operation of the station. On its arrival, it encountered the *William Scoresby* with which was a relatively tense encounter (Fontana 2014, 162).

Just a few months later, the Nazi government was surrendering to the Allied troops. The end of hostilities left a world that was fundamentally different from the world in 1939 and many of its long-lasting effects were still to be seen. The United States of America and the Soviet Union emerged as the great superpowers of the new international system, while a new international institutional order was being built. The old colonial empires were approaching their end, as the war had left them severely damaged and without a place in the order that emerged post-war. As the Great War had suggested previously, the power of technique and science had been demonstrated to be an asset of most strategical importance and their potential both amazed and terrified the men of that time.

With no Nazi enemies to justify its presence, the public excuse for Operation Tabarin was no more. Nonetheless, the British decided to maintain their hold in Antarctica and the scientific character given to the work undertaken allowed them to do it without any fundamental change. The bases established as part of the operation gave them an argument to sustain effective occupation of the region, which they

²⁹⁵ It seems that Marr suffered from psychological strain that lead him to a psychotic break.

hoped would suffice to forestall the Argentines and Chileans and settle the question of ownership of the FID. Furthermore, the British believed that they held a superior knowledge of Antarctica, and that such pre-eminence would guarantee them superior claims (Day 2013, 379). But the most serious challenge to British supremacy would come from the other interested party in the Americas in the form of a huge military operation that would overshadow any previous Antarctic expedition.

The war had transformed everything. It was not only the destruction and loss of life brought by the war, but the changes experienced in almost every aspect of social life. In less than six years, more than sixty million people had died, the whole economy of continental Europe was in ruins and the United States and Soviet Union had been affirmed as the great superpowers. Technology in the field of aviation, rocketry and communication had experienced immense advancement and the development of some scientific and technological fields, such as electronic computing and nuclear physics, had altered the prospects for technological and scientific development.

Being part of those changes, the heavy involvement of the state in the operation of the technological and scientific system within the different nations had resulted in a 'securitization' of scientific knowledge; in the sense that traditional scientific values of freedom of research, international interchange of information and debate, started to be weighed against the interests of national security. That doesn't mean that scientific practice had fundamentally changed in terms of the production of knowledge, but that it had become more complex in its social implications. In particular, science had become a heavily equipped and financed enterprise, working in numerous teams of specialized professionals and under an increasing bureaucratization of its procedures.

Additionally, the new international order that emerged from the war was more institutionalized, being centred around the United Nations organization (UN) and its specialized agencies. One such organization was the United Nations Educational, Scientific and Cultural Organization (UNESCO), which, in partnership with the ICSU, supported the return to the process of international cooperation in scientific research and was pivotal in its future development.

In that context, the US Operation Highjump in Antarctica would inaugurate a completely new level of Antarctic involvement, particularly in the Antarctic Peninsula. In the following years, not only would the US resume their Antarctic activities but also the Argentines; while the Chileans would be able to organize their first Antarctic campaign. That started a process of counter-balancing actions that resulted in an increasing presence in the area, diplomatic strain and the rising possibility of an armed conflict. Furthermore, after almost 130 years, the heirs of the Russian tradition would resume their Antarctic activities through the operation of its newly acquired whaling fleet.

4.3 The End of the War and the Resumption of Antarctic Tensions

After the end of the war in 1945, the naval character of Operation Tabarin was reviewed, and the Admiralty finally transferred full responsibility to the Colonial Office, which changed its name to the Falkland Island Dependencies Survey (FIDS) in a move to leave behind its military character. That change of name was accompanied by several calls for reform, including its fusion with the Discovery Committee activities and the call for improvement on the quality of research undertaken. But the political nature and relative low priority of the operation determined the reform process was sluggish. While scientists were conscious that such complications are ‘inevitable if one superimposes scientific activities on a political venture!’ there was the expectation that with time that would lead to placing more emphasis on the scientific side.²⁹⁶ The war had given to some of the scientific men involved in the political decision-making circles a practical view about how political aims could be used in furtherance of scientific objectives. In particular at the end of 1945, Roberts noted that: ‘it is my hope that the political side will now gradually sink

²⁹⁶ Bishop to Roberts, November 1945. B.B.Roberts - Correspondence and C'ttee Papers – FIDS: MS 1308/22/1. SPRI-A/UK.

into the background (except as a stimulus for the provision of funds) and that it will be possible to concentrate on a long-term programme of research'.²⁹⁷

The incorporation of many of the scientists and even scientific institutions within the governmental spheres of decision as part of the war had given some of those men a better understanding about the bureaucratic and political forces behind those processes. That not only improved the chances of them influencing the political decision-making process to favour the development of their respective scientific agendas through direct contacts or even action; but also resulted in a more sensible appraisal of the political problems that were involved in scientific activities. More than ever, they constituted the scientific-political link between science and politics and offered a channel through which epistemic views could be fostered.

But precisely for that reason, the change of name did not bring any substantial change to the nature of British expeditions to Antarctica. The number of bases were increased to forestall Argentine and Chilean territorial ambitions and the main objective continued to be political, rather than scientific—or even economic. In the instructions to Commander Bingham, who would succeed Andrew Taylor, it was stated that: 'The occupation of the main bases is to take precedence over all other activities.'²⁹⁸ The scientific instructions continued to be very similar to those advanced originally, giving predominance to geographical survey and meteorological work.²⁹⁹

With a party of 30 men, Bingham was instructed to relieve the existent bases, Stations A, B and D and establish two more, a new Station C on the Laurie Island of the South Orkneys, and Station E in Marguerite Bay. The former was considered the most urgent due to its importance in counterweighting the presence of the Argentine

²⁹⁷ Roberts to Bishop, 29 November 1945. B.B.Roberts - Correspondence and C'ttee Papers – FIDS: MS 1308/22/1. SPRI-A/UK.

²⁹⁸ F.I.D.S. Instructions issued to Surgeon Commander E. W. Bingham, R. N., October 1945. B.B.Roberts - Correspondence and C'ttee Papers – FIDS: MS 1308/22/1. SPRI-A/UK.

²⁹⁹ F.I.D.S. - Programme of Scientific Work, 1946, November 1945. B.B.Roberts - Correspondence and C'ttee Papers – FIDS: MS 1308/22/1. SPRI-A/UK.

station. As a way to avoid conflicts with the Argentines, the base was to be located on the farthest suitable point, precluding contact between the two parties.

When, in January 1947, a group of US vessels opened their way through heavy ice pack into the Bay of Whales to establish the base Little America IV, ‘There was no pretence that Operation Highjump was driven by science.’ (Day 2013, 383) The expedition, in charge of the recently created ‘Antarctic Developments Project’, was an answer to the requirements imposed by the superpower competition between the United States and the Soviet Union. It was also an expression of the view imposed by the last world war that the globe constituted a unified space of operation—something that would join the view that geophysical sciences had promoted since the previous century.

The expedition had been designed by the US Navy as a way to test military equipment for extreme-cold operations, in case of a direct confrontation with the Soviet Union in the Arctic. Specifically, it was stated to be an ‘extension of its policy of developing the ability of naval forces to operate under any and all climatic conditions...’ (*Polar Record* 1946, 27). However, behind that declared military objective, the biggest military operation ever sent to Antarctica had other, more ‘local’, objectives. The main interest was in whaling, which was considered to be resuming soon, but attention was also given to the political aspects involved. While field operational command was assigned to Rear Admiral Richard Cruzen—who commanded the US Antarctic Service’s *Bear*, Byrd, who had not abandoned his intentions of securing an Antarctic claim for the United States, was designed as Officer in Charge of Project and became the public face of the expedition.

The official position continued to be that of no claiming, while reserving all rights and denying any claim made by other nations (Document 786, Goodwin et al. 1972, 5786). But while it was not expected that US claims would make any territorial appropriation by the US easy, it was considered that it could favour the negotiation towards an international settlement, something that was starting to be seriously cogitated. Other countries, including Australia, Chile, New Zealand and the United Kingdom, feared the possibility of a US claim that could overlap their own pretended

Antarctic territories, and objected to the US intentions. New Zealand was the most concerned party and expressed the usual ‘surprise’ about learning that the US planned to establish a base on territory under ‘New Zealand’s jurisdiction’, offering to provide any assistance needed and to relinquish the need of previous authorization (Document 793, Goodwin et al. 1972, 5817–5818). Australia tried to secure funds to organize an expedition on its own but failed due to financial problems and the limitations of their acquired old polar vessel, the *Wyatt Earp* (previously Ellsworth’s vessel). Chile advanced with its plans through the acquisition of a polar ship and negotiation with Argentina, which also was making arrangements for an upcoming Antarctic campaign.

But at the end of 1946, US Task Force 68 initiated its assault on Antarctica and left clear that any political future the white continent may have, it would have the US as one of its key players. The expedition, divided into three groups, comprised a fleet of thirteen ships—including two seaplane tenders, two destroyers, two tankers, two supply ships, two icebreakers, an aircraft carrier, a submarine, and a communication flagship; 33 aeroplanes and about 4,000 men. The scale and magnitude of the expedition overshadowed any previous or forthcoming Antarctic campaign and expressed the military might and logistic capabilities of the United States.

The central group that was to proceed to the Ross Sea area and establish a base on the Bay of Whales encountered heavy ice and could only start working in late January, having to retreat just a few weeks later. Despite Byrd’s public declarations denying US claiming intentions, in total the expedition laid the impressive number of 68 claims, the most that any US expedition had ever made.³⁰⁰ While the purposes of the operations were primarily of a military nature, it was considered that it also offered a unique opportunity to amplify existing scientific data. In contrast to any previous US Antarctic expedition, the scientific programme was not elaborated under the auspices of a scientific association, but by the Director of Naval Research, Rear-

³⁰⁰ Claims, undated. RG 330. NARA/USA, *Op. Cit.*

Admiral P. F. Lee (*Polar Record* 1946, 401). Therefore, geophysical, geological, biological and glaciological work was added to the aerial surveying of the territory, the latter not being supported by ground control points due to the swift nature of the enterprise.

Picture 27: US Navy Antarctic 'Highjump' expedition Hhelicopter returns to the Northwind Icebreaker



Source: Ca. 1946. NARA/USA.

But the US was not the only superpower acting in Antarctica that season. After some 127 years, the Soviets were resuming the tradition of Antarctic exploration suspended since the Bellingshausen voyage of discovery. As a reparation of the war, Stalin had required the acquisition of a German whaling fleet captured by the Allies during the war. It was part of a plan that included the provision of whale products for a nation that was still trying to recover from the ravages of the war, but that also was directed to ensure a place in any future negotiations about the continent through the physical presence in the region (Gan 2011, 23).

The fleet comprised one of the first floating factories with a stern ramp, the *Wikingen*, and several catchers and was delivered by the British on September 1946. However, the British had savaged the different ships, they had to be refitted in the UK before being able to be used for whaling operations. While many experienced polar sailors were recruited within the ranks of the Soviet Navy, the lack of experience

on whaling operations required the request of assistance from Norwegian whalers. The ship was christened *Slava* (Glory in Russian) and the operational group denominated *Antarkticheskaya Kitoboinaya Flotilya Slava*. Having achieved the refitting of the ships in a short time, the *Flotilya* was ready to depart to Antarctic waters in December 1946 and so it did.

Simultaneously with the organization of its first whaling expedition, Stalin ordered the resolution of all legal issues related with Soviet activities in Antarctica. Accordingly, a delegation joined the other parties in the signature of the Convention for the Regulation of Whaling on December 1946—which was ratified by the Soviet Union in September 1948. The operations of the *Slava* were a complete success and after two seasons, the Norwegian whalers were dismissed. Without the Norwegian whalers the Soviets were free to obviate the Convention's regulations. The work of the expedition wasn't restricted to whaling activities and performed an extensive programme of oceanographic research.

While the Soviets were starting to capture their first whales and the US Task Force 68 was heading back to the US, a much more modest and traditional expedition led by US Commander Finn Ronne, was arriving at the old East Base on Stonington Island, out of Marguerite Bay. The commander of the so-called 'Ronne Antarctic Research Expedition'—or RARE as it was designed—was a Norwegian by birth, son of one of Amundsen's companions on his 1910-1912 feat to the pole, and who had participated on Byrd's previous expeditions of 1933-1935 and 1939-1941 (*Polar Record* 1950, 459–460). On the latter, he was designated second-in-command to Richard Black on the base they were re-occupying.

Although the American Geographical Society gave their formal support to Ronne's initiative in 1945, they were reluctant to back it up in a more substantial way. With Byrd's plans well advanced, Ronne had encountered many setbacks in gathering the necessary funds to assemble the expedition, even though it was to be formed mainly by volunteers. Less than a year before its departure, Ronne was complaining about the 'lack of scientific interest in the scientific circles' of the US (Day 2013, 393). However, thanks to the support provided by Byrd in securing Congressional approval

of the loan of a navy vessel and the Smithsonian Institute's contribution towards the salary of the Chief Scientist of the expedition, Dr. Carl Eklund—who nonetheless resigned from the post before the expedition's departure, by September 1946, his preparations were well advanced.

Ronne expected to make use of the stores and equipment left by the evacuation of the East Base in 1941. However, in late September, the State Department had been approached by the British Embassy with a note informing it that a British party was occupying the base and that the remaining stores, equipment and personal items were being prepared to be returned to the United States (Document 787, Goodwin et al. 1972, 5791–5795).³⁰¹ In November, the State Department duly informed the British Ambassador that the base would be used by the upcoming Ronne expedition and that the offer of returning US equipment was 'greatly appreciated' but had to be rejected. The British tried to convince Ronne to establishing his party elsewhere, but he insisted on the need to reutilize the East Base and the US government instructed the British delegacy to vacate the American base (Day 2013, 394). It was just a prelude to the convoluted relations that would be established between the RARE and the British FID party.

Despite published accounts of the expedition stating that 'The British and American parties co-operated from the start...' (*Polar Record* 1950, 460), the arrival of the RARE on the wooden *Port of Beaumont, Texas* was followed by conflict between the Americans and the British due to the state in which the base was found and even the use of the toilet on the American base by the British. The tension between the two parties only diminished after they realized that they could improve the work of both parties through cooperation. The RARE counted on three planes and good aerial-photography equipment, but the British had better capabilities for ground work through their sledging parties. Thus, it was agreed that the Americans and the British would work in cooperation and share all information obtained through the sledging work, and that any publicized material would acknowledge the other party.

³⁰¹ It also indirectly accused the Argentine visit of *Primero de Mayo* in 1943 for the 'considerable disorder' found at the base upon the British arrival.

With that arrangement, RARE managed to fly a total time of 350 hours, covering some 40,000 miles before being retrieved after the second summer season on February 1948. In contrast to previous aerial-photographic surveys, the RARE had expected to be able to produce a more accurate map, as the control points provided by the sledging parties in cooperation with the British would allow more precise fixes of geographical features. Despite the fact that cooperation in the field had been successfully achieved, as Dean *et al.* (2014) demonstrated, the data sharing after the end of the expedition proved to be a process that needed to be negotiated. Following those authors, the data was not seen as purely scientific, as geographical knowledge was intertwined with geopolitical aspects, and that determined that the exchange of such information ended up being interpreted by both parties as a form of ‘geopolitical negotiation’. But the British and the Americans weren’t the only ones interested in the geopolitical relevance of the southern regions.

In June 1946, Juan Domingo Perón, a former general who was part of the group that had favoured the last military coup in Argentina,³⁰² was elected president. From the beginning he adopted a nationalist and pan-Americanist discourse, that attacked not only British ‘imperialism’ but also the US attitude towards their South American neighbours. Just a few months later, Gabriel Gonzales Videla was elected president of Chile and, even though he didn’t share Perón’s military background he also adopted some strong nationalist and pan-Americanist lines that allowed both countries to establish a much closer political alignment, particularly regarded the Antarctic issue.

With the British having reinforced their position in Antarctica through Operation Tabarin and its continuity through the FIDS and the US raising its stake with Operation Highjump and the private but state-endorsed and funded RARE, the two South American countries needed to react swiftly if they were not to be left out of Antarctica. Argentina had confronted a period of strong political turmoil during which it only managed to maintain its operation on Laurie Island. The National

³⁰² The so-called *Grupo de Oficiales Unidos* or GOU. The group defended a nationalist and corporativist ideology and many of its most important figures were associated with fascist positions.

Antarctic Commission had fallen into a sort of latency period after the confrontation between its director and the other members, which deaccelerated the process that began after its constitution as a permanent body and had imposed a halt in the negotiations between Argentina and Chile regarding a common border—which was also assisted by the US and British pressure over Chile. The latter had been unable to secure a vessel apt for ice-navigation which had impeded the materialization of its Antarctic ambitions. However, after that limitation was overcome, the Navy started to press ahead with its plan for the much-awaited Chilean Antarctic expedition.

The first step taken by Perón's government was to modify the composition of the Antarctic Commission, increasing its numbers through the incorporation of representatives of several governmental bodies, including the military branches. The Commission elaborated a general plan for the effective occupation and administration of the Argentine Antarctic Sector that aimed to determine the sector to be claimed by Argentina, the materialization of an expedition and the study of possible alternatives for reaching an international agreement on Antarctica (Rinaldi 2013, 148). In terms of the activities to be undertaken on the continent, the emphasis was given to geographical exploration, including aerial mapping and photometry; meteorology; tidal relations between Antarctica and the southern tip of the American continent; and the potential for human, animal and vegetal adaptability to Antarctic conditions. That was in addition to the recognised need to study the geopolitical value of the Antarctic Peninsula and its neighbouring islands. For such a programme, the plan required the acquisition of polar equipment, including special vessels and aircraft; the establishment of a permanent station on the north-east tip of the peninsula; and specialized training in meteorology, oceanography and hydrography for the naval personnel. As can be seen, the plan maintained the previous predominance of geopolitical objectives, to which scientific activities were subsidiary. Not only did the initiative emanate from the government—or more precisely from the Commission—but it was expected that the bulk of scientific activities would be undertaken by military personnel, even if they would have specific training.

Chile, for its part, had been unable to secure a suitable vessel that could allow it to start its operations in Antarctica. Negotiations with several countries had taken

place since before the end of the Second World War, but it was only in 1946 that they finally managed to obtain a suitable ship. Now, finally, the Chileans would be able to fulfil the promise made in 1943 to the Argentines and duly invited three Argentine officers to take part in the upcoming Chilean expedition, which the Argentines accepted and responded to with reciprocity. The Chilean expedition was not ambitious from the operative or scientific point of view, it was destined to establish the base for future Antarctic operations, including testing their equipment in polar conditions.

With the two South American rivals planning to resume their challenge to British authority in the peninsula region, the FIDS continued with its plan of intensifying their presence through establishing new permanent bases. Thus, the beginning of 1947 experienced the encounter of Argentine, British and Chilean parties in the Antarctic Peninsula area, something that increasingly would characterise the years to come. Accordingly, with the political instructions received from London, the British magistrates objected to the Argentine and Chilean presence without the request of authorization, to which they received the counter-protest that declared that those regions were not British but Argentine or Chileans respectively. Despite the existence of misgivings regarding each other's actions, the Argentines and Chileans related to each other with a spirit of relative camaraderie, partially guaranteed by the participation of observers from each other's party. In contrast, the contact with the British was more formal and it seems that the Chileans received a much harsher treatment when confronted about their conflictive claims. Nevertheless, the relative sympathy shown between the two South American countries did not result in any kind of profound cooperative effort or coordinated programme.

Following that rush of Antarctic activity, the 1947-1948 season would once more result in the overlapping of the operations of Argentina, Chile and the United Kingdom in Antarctica; this time with the added signification of the symbolic visit of the Chilean President Videla to a newly established Chilean base. As with the 1940 Chilean decree, the symbolism of the act was intended to reflect a national commitment that was an expression of the deep connection of the Andean country with the white continent; and was utilized as a way to publicize that sentiment and

promote the domestic public's interest—which seemed not as interested as in Argentina.

To the growing concern of the British, the common south American front seemed to be cemented through a series of political declarations. In July 1947, the Argentine and Chilean Ministers of Foreign Affairs –Juan Atilio Bramuglia and Raúl Juliet Gómez—signed a joint declaration in defence of the “south-American Antarctica”, in which both countries committed themselves to develop a ‘...harmonious action plan between both governments in pursue of the betterment of scientific knowledge of the Antarctic region...” and to work in consort to the use of its resources and to find an agreement regarding the division of their respective sectors (Alzerreca 1949, 357, own translation). Following that interchange, in march of the next year, the Chilean Foreign Minister Germán Vergara Donoso and the Argentine extraordinary ambassador and director of the Argentine Antarctic Commission, Pascual de la Rosa, signed another declaration by which both countries committed to act in collaboration to protect and defend their juridical rights over their respective Antarctic Territories (Alzerreca 1949, 358; Fontana 2014, 199).

With the three countries heading to an unavoidable clash; New Zealand and Australia worrying about the US interest in their respective claimed territories; and the Soviet Union resuming their whaling activities, the US government decided in favour of a successor to Operation Highjump. Operation Windmill, as it was denominated, was a much smaller naval expedition which mostly maintained the general objectives of its predecessor, namely, the training of troops in polar conditions, the testing of military equipment in extreme low temperatures, and the completion of the geographical and scientific works initiated during Highjump. Including two icebreakers, three helicopters, one seaplane and about five hundred men, Windmill's Task Force 39 was instructed to establish ground control points in the ‘Wilkes Land’ region for the thousands of aerial photographs taken during Highjump. As before, the opportunity would also be taken to deposit 12 territorial claims in the name of the US but, also as before, without any publicity.

The operation also had the political intention of strengthening the US position in Antarctica with a view to force an international agreement on the heated political

conflict between Argentina, Chile and the United Kingdom. With that in mind, the US government had started to study the possibility of promoting a UN Trustee to administrate the continent. However, the position of the Soviet Union within the Security Council made that idea unattractive, as it would mean its involvement in any Antarctic decision. Looking to avoid including the Soviets, the US developed the idea of a condominium between the seven claimant countries and the US.³⁰³ Having failed in obtaining Argentine and Chilean support for its idea of an American condominium in 1940, the US had moved to a proposal that would not exclude the British from the FID, something that, by that time, was not seen as a practical possibility. The US strategy was to build an Anglo-American agreement before incorporating the South Americans, therefore the meetings were maintained in secrecy. If successful, it would be presented to Argentina and Chile as a joint proposal between Australia, New Zealand and the US to avoid the rejection that British participation in the negotiation without also consulting them would generate.

However, the Australians were reluctant to renounce their claimed 'Australian Antarctic Territory' and, when the negotiations were disclosed, motivated protest from Argentina and Chile. Although both countries had been in favour of an international conference to settle the sovereignty issue in Antarctica, they were unable to accept the prospect of being offered an arrangement in which they'd not actively participated. Furthermore, they were profoundly against the idea of a condominium, as it would mean renouncing their claimed sovereignty and rather they preferred an agreed division of the territory.

Almost simultaneously, the Chilean advisor of the Chilean Antarctic Commission, Prof. Escudero, was elaborating a 'standstill' proposal that eventually was remitted to the US Department of State for its consideration, before sending it to the other interested countries. The Chilean proposal provided for a five-year moratorium during which the parties would commit themselves to preserving the pre-

³⁰³ By that time Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom had advanced claims to Antarctic territory. Up to now they continue to be the only seven countries that have forwarded formal claims. That is explained by the agreement reached in the 1959 Antarctic Treaty to put on hold any new claims or modify the existing ones.

existing rights to sovereignty over Antarctica; the exchange of information and the exemption of taxes and other charges to fishing vessels.³⁰⁴ In addition, six months before its expiration, the participant countries would consult in order to assess the suitability of calling an ‘Antarctic Polar Conference’. In that way, Professor Escudero expected—as did the Chilean government—that the tension between the parties that met in Antarctica would be dissipated and that scientific cooperation would be facilitated.

While both US proposals were rapidly discarded, the Chilean ‘standstill’ agreement generated some good appreciation on the US and the British side which studied modifications that would make the proposal acceptable to them. In September 1949 the US sent a re-draft of the Chilean proposal to the UK government in order to seek their opinion, and the following years saw several interchanges between the different parties regarding that idea. However, events in the Antarctic Peninsula were taking a course that made an agreement mandatory if a military conflict was to be avoided.

4.4 The Calm Before the Storm: The Tripartite Agreement, International Cooperation and the Verge of a Military Conflict

The approach made by the US did not ensue any agreement, but at least favoured rapprochement between Argentina, Chile and the United Kingdom. To de-escalate the conflict, the Argentine and British governments signed a declaration in which they committed not to send warships or make military manoeuvres south of 60° south latitude in the upcoming Antarctic season, ‘with the exception of movements than have been customary for a number of years’ (Howkins 2008b, 178–184). Afterwards, Chile was included in the declaration, which was signed on 30 October 1948 and renewed yearly—until 1961 when the entering into force of the Antarctic Treaty made

³⁰⁴ The Chilean proposal is included in: Reunidos en la ciudad de... Undated. Chilean Proposals for the Internationalisation of the Antarctic [Folder 3475]. South America, 1949, General: FO 371/74757. TNA/UK.

it outdated. In order to strengthen its credibility, the US endorsed the declaration, even though it avoided being included as a declaring party.

The arrangement was ambiguous enough as to leave open the possibility of multiple interpretations, but it was an initial effort to limit the militarization of the continent. With the increasing intervention of naval forces in the Antarctic operating as a deterrent, the possibility of a direct conflict was becoming apparent, due to the increasingly conflictive nature of the contacts between the British and the South American countries. The heated tone used in journalistic reports and the political use made of the nationalist discourse in Argentina, the United Kingdom and Chile, did nothing to help ease tempers, but the tripartite agreement at least guaranteed a basic level of accord. Made on a yearly basis, the tripartite declaration ensured that such commitment was effectively renewed, instead of a longer-term commitment that could easily become ineffective.

The tripartite agreement allowed the three parties to continue their operations, while the US discontinued their activities in the white continent without that meaning it stopped looking for an international political agreement. The brief truce allowed the Argentines to establish more bases in Antarctica, becoming the most active country in the region. The Chileans overcame their initial operational shortcomings and reached an interesting level of activity, which included the establishment of new bases and annual visits to different areas. The British continued with the research conducted as part of the FIDS, while also increasing the number of bases distributed along the Antarctic Peninsula and the sub-Antarctic islands.

In the meanwhile, in other quarters, the region that was the object of the Nazi expedition, christened *Neuschwabenland* by the Germans, was receiving the first truly international expedition, the Norwegian-British-Swedish expedition, or NBSX as it was known. It was conceived in 1944 by a Swedish geographer, Hans Ahlmann, who had been prominent in the study of glaciology and climate change through the implementation of quantitative methods. Ahlmann had developed an interest in some photographs taken by the German expedition of 1939, which seemed to suggest that traces of glacial retreat were present in Antarctica. But it was Johan Gunnar Andersson—Nordenksjöld's partner in the aborted British/Norwegian Graham

Land expedition of the 1910s—who had first suggested the idea of an Antarctic expedition to Ahlmann. Ahlmann not only recovered the plan for an expedition to Graham Land, but also the idea of a Nordic-British Antarctic expedition.

With that objective, he approached James Wordie and the RGS in Britain, and the Norwegian *Norges Svalbards- og Ishavsundersøkelser* (Norwegian Svalbard and Arctic Survey Service). After some lobbying, Norway acceded to the proposal, not before the targeted region of the expedition changed to the Queen Maud Land, a region that attracted the Norwegians due to their claim of 1939, and Ahlmann because of his interests in the study of the glaciers revealed by the German photographs. Despite being characterised as a ‘purely scientific’ enterprise, the NBSX was supported by political interests. Post-war Norway followed a foreign policy that searched for some role of leadership within international frameworks, to which an international collaboration effort of the sort would be instrumental. At the same time, the engagement in the region claimed by Norway would be a reinforcement of the country’s rights in the face of the increasing activities of other parties.

A Norwegian Geographical Society’s organized expedition in collaboration with the whaling association and leaded by Riiser-Larsen failed to materialize in 1947. It would be only with the creation of the Norwegian Polar Institute in 1948 and the recommendation of Haral Ulrik Sverdrup, a Norwegian oceanographer with extensive Arctic experience³⁰⁵ and friend of Ahlmann, as its director, that the proposal gained impulse. In May 1948, the Norwegian Ministry of Commerce obtained the unanimous approval of a bill for funding the ‘Norwegian-British-Swedish Antarctic expedition’. Besides the nationalist motives of being organized under Norwegian leadership and being operated under the Norwegian flag, the expedition was also justified by the value of its intended scientific results (Roberts 2011, 124).

Once the Norwegian support was secured, the Swedish funding swiftly arrived, in great part due to Ahlman’s success in promoting the expedition as part of the country’s tradition of glorious polar exploration. In December 1948, the British Treasury finally agreed to the Polar Committee’s recommendation of contributing

³⁰⁵ That included his participation as scientific director of Roal Amundsen’s North Polar expedition.

one fifth of the planned budget of the programme.³⁰⁶ Although the expedition was not aimed at the contested region of Antarctica, inter-departmental discussions had considered that British technical and scientific cooperation with the two Scandinavian countries would be beneficial from a political point of view.³⁰⁷ A joint committee was established to finish the preparations, and consult over general matters. The selection of expedition members was the responsibility of each nation, even when there was consultation with the other parties. It was decided that observers from the Dominions would be invited.

The expedition sailed to the coast of Queen Maud Land in late 1949 and established a base that received the name of *Maudheim*—something that was intended to establish a link with Amundsen's *Framheim* and *Polheim*. The winter party was composed of fourteen men—six from Norway, four from Sweden, two from Great Britain, one from Canada and another from Australia—and two observers—one from Australia and another from South Africa. Coordination between the different members proved to be more complex than expected, particularly due to differences on what were seen as the priorities of the expedition. In terms of its members, the expedition was assembled as a party of specialists in their respective scientific disciplines rather than adventurers (Roberts 2011, 131–136), something that was allowed by the technological advances in transportation and polar survival.³⁰⁸

Notwithstanding the disagreements between the different parties that took part in the international effort, the expedition was presented as a complete success, an example of harmony and international cooperation and as an enterprise dedicated purely and specifically for scientific purposes. The Norwegian government had to deal with the overspending of the expedition as the United Kingdom and Sweden had clearly established that financial responsibility would lie with the leading nation. In the end, the experience failed in sustaining any further interest by Norway or Sweden,

³⁰⁶ Chadwick to Commonwealth Relations Office, 31 December 1948. South American - General - 1949 [Anglo-Norwegian-Swedish Antarctic Expedition]: FO371/74748. TNA/UK.

³⁰⁷ Memorandum by Sir Noel Charles, 7 January 1949. South American - General - 1949 [Anglo-Norwegian-Swedish Antarctic Expedition]: FO371/74748. TNA/UK.

³⁰⁸ And even that would exact a price on the expedition when three members died during a trip on a 'Wessell'.

but did serve as an inspiration for future international cooperation in Antarctic scientific research, however fictitious its idealised character may have been. In that sense, it constituted a necessary transition between the former national expeditions based on adventure, human resilience and territorial ambitions, in which science played an instrumental role; and the scientific technical expeditions based on international coordinated programmes that would characterise the years to come. But in the Antarctic Peninsula, events were about to take a course that would take Antarctica to the verge of a military clash.

In 1949, after the tense events of the previous year, Hernán Pujato, a young colonel in the Argentine Army, presented an ambitious Antarctic plan to Argentine President Perón. The plan included the achievement of five objectives: i) the effective presence of the Argentine Army in the continent; ii) the establishment of a specific scientific institution; iii) the establishment of an Antarctic settlement; iv) the acquisition of an icebreaker; and iv) the reach of the South Pole (Fontana 2014, 215). The plan did not generate much interest at the time, but Pujato continued with his plans, undertaking special training in the US and Sweden and acquiring dogs for sledge travelling with his own money.

By the end of 1950, Perón approached the young colonel to assign him the task of organizing an Antarctic scientific expedition. Despite the continuous delays that the Argentine Navy imposed by refusing to provide a suitable ship, he managed to secure the collaboration of prominent Argentine entrepreneurs, the Perez Companc brothers, who provided one of the company's ships, the *Santa Micaela*, later on joined by the tug *ARA Sanavirón*. On 12 February 1951, after sorting out all the bureaucratic difficulties and training the personnel, the 'First Argentine Scientific Expedition to Antarctica' was ready to depart.

The *Santa Micaela* proved to be inappropriate for the task, but the expedition managed to arrive in Marguerite Bay on 8 March, after more than three weeks of navigation. The party was immediately put to the task of establishing the *Base San Martín*, the first Argentine Army base in Antarctica. Once the work was completed, the two ships sailed north, leaving behind a wintering party that included Pujato in its

ranks. The party experienced several setbacks but managed to conduct an important programme of observations and sledge surveys.

In April 1951, Perón took a further step in implementing Pujato's plan and by decree 7338 of 1951 established the '*Instituto Antártico Argentino, Coronel Hernán Pujato*' (IAA), putting it under the polar explorer's direction. The Institute had as its foundational aims to guide, control, manage and execute the research and technical studies related to Argentine Antarctic activities in coordination with the National Antarctic Commission. Meanwhile, Perón won his second term with an ample margin of votes, while in Britain Churchill was elected prime minister, succeeding Atlee's Labour government.

Picture 29: Argentine President J.D.Perón greeting Cl. Pujato



Source: 1952. Diana Pujato de Miller private collection, Argentina.

The following season saw an impressive display of activity by the Argentines, with a fleet that included seven ships, seaplanes and helicopters. The Navy continued with its hydrographic and cartographical work, and constructed another base and a light beacon at Hope Bay—the *Base Naval Esperanza*—and the Air Force commenced the preliminary work for the installation of a base on Dundee Island. The Argentinian Air Force had also marked its presence in Antarctica through the operation of its transporters, a C-47 and an Avro 694 Lincoln, that carried out recognition and aerial supply operations.

Then, on the first day of February 1952, an encounter between the Argentine and the British in Hope Bay ended with the withdrawal of the British party from the beach after machine gun fire was dispensed as a warning by the Argentine naval detachment established there. The incident resulted in British outrage and the despatching of the *HMS Burghead Bay* frigate to escort the *John Biscoe*, which with the support of the frigate encountered no resistance from the Argentines and established Station D in the vicinity of the Argentine base. The Argentine government denied any misconduct and claimed that the incident was a product of a misinterpretation of instructions by the commander of the base, due to being overzealous in the fulfilment of his mission. The British government, however, did not take the bait and protested against the strongly-worded declarations of Perón made at different public events. The course of events led the Argentine government to transfer the responsibility of the recently created IAA from the Ministry of Technical Affairs to the Ministry of Defence and transferred the Laurie Island Observatory to the Ministry of the Navy.

With the tensions escalating, both Argentine and Chileans decided to establish a base on Deception Island. In January 1953, both parties established their respective huts near both extremes of Wilkins's old airstrip. By the beginning of February, the Chileans abandoned the base where they left a quantity of materials for future works. On 15 February 1953, without any Argentine vessel in the area, the sloop *HMS Snipe* and the frigate *Bigbury Bay* approached Deception Island where 30 naval troops disembarked. Two 'police officers' appointed by the British governor in the Falkland Islands (Malvinas) detained the two Argentine officials that were staying at the recently built base, while the naval party destroyed the Argentine and Chilean

installations. The action, which was a retaliation for the incidents of the previous year in Hope Bay and was considered by the British government as necessary to forestall the increasing Argentine challenges to British authority in the region, was conceived in extreme secrecy as a way to avoid any pre-emptive action from the Argentine Navy. The two detained Argentine officials were delivered to a whaler to be transported to Montevideo.

The action resulted in complete indignation from Argentina and Chile's governments, who strongly protested and even invoked the Rio Pact of 1947 in which by request of both governments—and with the reservations made by the US—an American sector of Antarctica was included as part of the continental security region. The Argentine government reacted with several symbolic demonstrations, but no further encounter was provoked, while the Chileans, after an initial moment of outrage and the consideration of military retaliation, appeased its temper. In the end, all three parties agreed to avoid publicity about the incident as a way to prevent public opinion from forcing a stronger reaction and leading to a more intense conflict. Interminable discussions and protests took place regarding who had broken the 'status quo' in Antarctica and the possibility of not renewing the tripartite naval agreement was put on the table. Luckily the naval agreement was renewed, and no more violence would ever take place in Antarctica. But it had been a relatively close call. A solution had to be reached, but the position of the parties in the conflict was such that an agreement seemed unlikely. Nonetheless, in 1950 scientists and scientific institutions began working on an international scientific programme that would change our knowledge about our earth and, with it, the political reality of Antarctica.

Chapter Five: Science, Politics and the Origins of the International Regime for Antarctica.

By the 1950s, there were numerous important questions that required a global approach and which scientists around the world were willing to investigate. Some of them could be traced back as far as the first IPY, while others were a product of recent technological and scientific advancements. The limitations imposed on the second IPY by the economic crisis of 1930s and the subsequent political crisis that led to the war had hampered the possibilities that were expected to be obtained through international scientific cooperation. Additionally, the war itself had produced some substantial advancements in terms of radio communication, rocketry, nuclear physics and computing that shed a completely new light on the kind of problems to be addressed and the possibilities open to technological development.

Due to the halt in scientific international cooperation—with the exception of some specific programmes directed to the war effort—there was relevant capital for international cooperation that had been accumulating during the last decade. The end of the war had brought the revival of the UCSI which, now with the support of the recently created UNESCO, had resumed its activities with a substantial impulse. That context was also intersected by the scientific and technological race inaugurated by the superpower competition between the United States and the Soviet Union, once the Cold War had been installed into the international system as its governing logic. The rapid acquisition of nuclear capabilities by the Soviet Union had shown the swift scientific development that was being experienced and raised concerns about the extent of Soviet scientific potential.

In that context, there were a complex of conditions that intersected at the centre of the necessity for international scientific cooperation, including the ideological competition for prestige, the competitive access to knowledge with strategic importance—by itself or due to its technological applications, the need to reduce the uncertainty about the scientific and technological capabilities of one's opponents, and the individual and corporative needs of scientists to develop a specific knowledge in their respective fields of expertise. In 1950, while the Korean War was

making explicit the exteriorization of the superpower competition produced by the Cold War, in the Western world a plan for resuming international cooperation in science on a grand scale was being articulated. And in contrast to all other previous experiences of the sort, this time Antarctica would have a key role.

5.1 The Time of Science: The International Geophysical Year

In 1950, far away from the frigid lands of Antarctica, or the busy offices of the public bureaucrats, an initiative was being conceived by scientists which would decisively shape the future of Antarctic politics. The idea did not appear from a total vacuum. It responded to the accumulated need of international scientific cooperation and had some forerunners that were rapidly disregarded. In 1946, a representative of the government of South Africa presented before the Polar Committee in London a proposal by the Geological Society of South Africa for a Third International Polar Year.³⁰⁹ The debate in the Committee considered the scientific benefits that would accrue from the project, particularly in meteorology, but was unable to reach a final verdict about the political aspects involved. By October, after some debate, the prospect of a third IPY was abandoned.³¹⁰

Some years later, on 5 April 1950, at a dinner party in Silver Spring, Maryland, hosted by the American geophysicist James Van Allen, the idea of a third International Polar Year was once more presented (Collis and Dodds 2008, 555; Belanger 2006, 30; Walton 2013, 19; Korsmo 2007a, 1313–1314; Sullivan 1962, 20).³¹¹ Present at the dinner was the British physicist Sydney Chapman, and the American physicist Lloyd

³⁰⁹ Polar Committee – Minutes of Meeting, 26 March 1946. Polar Committee – Proposals for Discussion by the Polar C'ttee at a Meeting to be held in March [Folder W146/6]. Public Record Office, Departmental Requisitions, Chancery Lane, W.C.2.: DO35/1171. TNA/UK.

³¹⁰ Polar Committee – Minutes of Meeting, 31 October 1946. Polar Committee: General – Meeting of Committee, 31 October 1946 [Folder W146/8]. Public Record Office, Departmental Requisitions, Chancery Lane, W.C.2.: DO35/1171. TNA/UK.

³¹¹ I found no evidence of any link between the idea presented by the representative of the Union of South Africa to the Polar Committee and the proposal worked at the dinner in Silver Spring. I considered that the emergence of the same idea most probably had resulted from the accumulated need of knowledge over the last decade.

Berkner. Chapman had participated in the second IPY, was a prominent figure in geophysics and had a promising agenda in atmospheric studies. Berkner had taken part on Byrd's first Antarctic expedition as radio technician, he had also taken part in the activities of the second IPY and was a rising figure in international scientific institutions—he was soon to be elected president of the ICSU. Also present were the physicists J. Wallace Joice, S. Fred Singer and Ernest H. Vestine.

When the conversation turned to the possibilities presented by recent developments in the study of geophysics and, particularly, of the whole atmosphere—something impossible less than a decade ago—Lloyd Berkner advanced the idea of a new polar year. The idea was embraced by them all and it was agreed that Chapman and Berkner would present the idea at the upcoming meeting of the Mixed Commission of the Ionosphere in July to make it public to its members—the International Union of Scientific Radio (URSI), IAU and IUGG—and the ICSU. In the following months all the unions endorsed the idea and in January 1951 it came before the Bureau of the ICSU which referred it to the Executive Board. The idea of a joint commission was replaced by a Special Committee of the Council, it was considered that it would have more flexibility, something that was accepted by the representatives of the different unions on the Board (*Annals of the International Geophysical Year - Vol. I* 1959, I:383–385).

The proposal rapidly gained support from other international scientific associations. The Meteorological Association urged inviting the WMO and proposed extending observations to lower latitudes. On August 1951 at the Assembly of the International Association of Terrestrial Magnetism and Electricity in Brussels the Danish meteorologist Johannes Egedal proposed to extend the observations all over the earth (Bulkeley 2008, 1). The same year, the WMO not only agreed to participate, it also proposed to change the denomination to the 'International Geophysical Year' (IGY) whereas it would recognize the need for global synoptic observations of geophysical phenomena, which would include subtropical and tropical observations in addition to the polar areas. The proposal of the alteration of the name was presented and approved the following year by the Special Committee of the ICSU under the initiative of Chapman. At the same time, invitations were sent to the

adhering organizations of ICSU with the request that special National Committees be formed.

To attain a truthfully scientific, global and apolitical character, it was decided that the Soviet Union had to be invited. However, the Soviet Academy of Sciences had almost no participation in any of the international scientific structures linked with the ICSU and was not part of UNESCO (Bulkeley 2008, 1–2). After some initiatives to circumvent those limitations, a formal invitation was sent to the Soviets in September 1952, which was repeated three times the following year due to the lack of response. Finally, 18 months after receiving the invitation, the Soviet Academy of Sciences joined the IUGG and agreed to participate in the IGY (Korsmo 2007a, 1314; Bulkeley 2008, 2). The Soviets' positive answer was driven by the changes experienced after the death of Stalin, which resulted in a more open attitude to scientific autonomy and international interchange, as would also be exemplified by the decision to join UNESCO one month later. Furthermore, the possibility of acting in Antarctica as part of a scientific international effort offered an opportunity to mark its presence on the Antarctic continent without triggering an international crisis (Peterson 1988, 39).

As the preparations advanced, scientific committees were organized in order to deal with technical arrangements, and the participating countries were requested to adapt their existing bureaucratic structures or to create new structures as a way to deal with the newly established challenges (Peterson 1988). By the time the *Comité Spécial de l'Année Géophysique Internationale* (CSAGI)³¹² first met in Brussels, in June 1953, twenty-two nations had formed IGY National Committees, including Czechoslovakia and Yugoslavia (Sullivan 1962, 27). The early participation of those two countries was an indication that the international scientific institutions imprinted a special dynamic, as they were ahead by more than a year compared to other communist countries,³¹³ which probably was as a result of those two countries being members of the URSI.

³¹² The CSAGI was a special committee of the International Council of Scientific Unions (ICSU) created for organizing the IGY.

³¹³ The inclusion of other Soviet allies into the IGY programme would take another 15 months.

As an output of the required structure, a deeper institutionalization of national scientific policies was attained, that also resulted in a greater interchange between scientists through the international committees of the IGY. The governance system adopted by the CSAGI was based on scientific specialization, rather than nationality, which meant that in some countries where geophysical research was dominated by the military, participation in the IGY would be left to scientists instead (Korsmo 2007a, 1315).

The advancement of the preparations by the international scientific associations meant that, when finally presented officially to the governments in 1953, the materialization of the project was seen as inevitable, and participation—at least for the countries interested in Antarctica—as mandatory if they did not want to be left out of Antarctic politics and be superseded by the actions of other nations. Argentina and Chile, whose scientific institutions did not participate in the original discussions that gave shape to the IGY and were only included once that the general programme was already decided, were encouraged to join the international effort due to the emphasis given to Antarctica (Howkins 2008a, 605). As with the aborted Bergen exhibition, both South American countries saw the event as involving important political repercussions, and designated important resources to develop their Antarctic programmes, even though in the case of Chile there were important limitations as a consequence of the economic and budgetary situation of the country.

In 1954, during the second CSAGI Meeting in Rome, the emphasis on Antarctica and outer space, two regions that recent technological developments had brought within reach, was made explicit due to their importance for the understanding of geophysical phenomena. The need of observations on the upper atmosphere resulted in the suggestion that consideration be given to the launching of small satellite vehicles (*Annals of the International Geophysical Year - Vol. I* 1959, I:406), while Antarctica was recognized as holding the most significant unexplored geophysical aspects. Thus, it was labelled as a region that would receive intensive attention. To include the Soviet Union and France, the Bureau of the CSAGI was expanded to incorporate representatives of those countries, therefore counting on representation by what were considered the four great powers.

In May 1955, the Secretary of the CSAGI, Geroges R. Laclavere, invited the delegations involved in the Antarctic programme of the IGY to an ‘Antarctic Conference’ which was to be held in June. The Argentine and Chilean delegations exerted pressure to postpone the meeting, considering it necessary to have more time to assemble adequate representation. Not ingenuously, as one of the main tasks of the conference would be to debate the location of scientific stations, both countries considered it necessary to be well prepared to join the discussions. At last, they managed to convince Laclavere to postpone the meeting until July, not without causing strain with the Secretary, but allowing them time enough to assemble a delegation that could match that of other countries.

The Antarctic Conference took place in Paris during July 1955 and revealed the different perspective that the South American countries and the rest had on the ‘purely scientific’ character of the Antarctic programme of the IGY. While Chile tried, unsuccessfully, to obtain a resolution from the conference in the sense that the work of the IGY would not affect the political status quo in Antarctica—something that resembled Escudero’s idea of a ‘standstill’ proposal—under the grounds that the IGY would not consider political issues; Argentina was equally inefficient in obtaining priority in conducting scientific work in the Vahsel Bay area, where they had already established the Belgrano Base and the British and Americans were planning to construct their own stations in the near vicinity.³¹⁴

In the end, Chile had to content itself with a resolution in which the conference approved the terms of Laclavere’s opening statement that ‘the objects of the Conference are exclusively of a scientific nature’.³¹⁵ Having been assured that the Conference would not approve a declaration on political issues, they had sounded out Laclavere to confirm that his inaugural speech would state the apolitical nature of the decisions arrived there. When he finally opened the Conference, Laclavere’s words

³¹⁴ Rossetti to Minister of Foreign Affairs. Conferencia Antártica de Paris [Nº 928/38], 20 July 1955. 1955-1958 – Conferencias Antárticas. AGI: Archivo General Histórico, Fondo Antártica/Vol. 28. AGH-MRE/CHL.

³¹⁵ Resolutions. 1º Conference Antarctique, Paris, 6-10 Julliet 1955. 1955-1958 – Conferencias Antárticas – AGI: Archivo General Histórico, Fondo Antártica/Vol. 28. AGH-MRE/CHL.

were far weaker than the Chileans had expected, but at least offered the opportunity to obtain some specific safeguards embodied in the first resolution of the Conference. By contrast, the Argentines did not obtain any concessions, and had to accept the approval of the overlapping of the three stations on Vahsel Bay with general declarations on the need to articulate the work of stations in near proximity.³¹⁶

The failure of the two South American countries' agenda for the Antarctic Conference demonstrated that their suspicions about the detrimental political effects of the event were not unjustified, but also that their only option was to undertake even more intensive participation. However, they were not the only parties that started to feel anxiety about the political consequences of the IGY Antarctic activities and the decisions taken by their scientific representatives.

In the UK, the outcome of the Paris conference was received with concern, believing that debates had been politicised by the Latin Americans.³¹⁷ The British representation was limited to a delegation of the Royal Society and was caught by surprise by the presence of government officials in the delegations of Argentina, Chile and the US. Worried about the decisions taken by scientists without a sense of the political consequences that could result and without wanting to designate official representatives,³¹⁸ in debate with the other Commonwealth governments of Australia, Canada, New Zealand and South Africa, they decided in favour of sending observers representing their respective governments to the next CSAGI meeting that was to be held in Brussels.³¹⁹ Eventually, explicit guarantees that the scientific activity would

³¹⁶ By the Chilean accounts of the Conference it seems that the position of the Argentine delegation was considered with animosity by CSAGI Secretary Laclavere. The request by the Argentine representative, General Renauld, that priority be given to the Argentine already established station on Vahsel Bay provoked an outburst from Laclavere and the Chilean delegate had to intervene to appease the spirits. (Rossetti to Minister of Foreign Affairs... 20 July 1955. *Op. Cit.*)

³¹⁷ International Geographical Year – Report of the Antarctic Conference held in Paris in July 1955 [A1522/24]. Soviet Interest, British National IGY Committee reports, UK IGY Programme, IGY Antarctic Conference (Paris) (1955): FO371/113960. TNA/UK.

³¹⁸ It was considered that official representation would be detrimental as it would commit the British government to the decisions taken at such meetings.

³¹⁹ Record of a Meeting at the Commonwealth Relations Office, 1 September 1955 [A1522/43]. International Geophysical Year (1957 to 1958); IGY Report of Antarctic Conference in Paris; territorial claims in Antarctica; Soviet interest in the region; programme of national committees: FO371/113961. TNA/UK.

not affect the political status quo were given, but it was as a consequence of the involvement of the Soviet Union on the Antarctic programme and the concerns that such involvement had raised.

On the third day of the Paris Conference, the head of the Soviet delegation for the IGY, Vladimir Belousov, announced that the Soviets were planning to install three bases in Antarctica, including one at the South Pole and another in the pretended Australian sector (Sullivan 1962, 291–293). Ultimately, Belousov agreed to withdraw from the South Pole and promised to bring back to Moscow the suggestions made by the Conference about the relevance of the south magnetic pole and the pole of inaccessibility—locations that eventually would be accepted by the Soviets for the installation of two of their Antarctic IGY stations. But the Soviet involvement in Antarctica had raised concerns about East/West rivalries being introduced to the IGY. Fortunately, suspicion at the superpower level was removed the next year at the preparatory meeting in Brussels by agreeing on a mechanism of mutual inspections and interchange of personnel, something that would also constitute one of the bases of the future international regime for Antarctica.

In each country, the debate acquired a particular tone following the individual positions of domestic Antarctic politics. Strategic and economic considerations were deliberated in order to obtain the financial, logistical and scientific resources necessary to assume the task. Nationalistic discourses in some countries such as Argentina and Chile voiced their displeasure with what was seen as a veiled renouncement of their national sovereignty; but ended up yielding to the acceptance of the IGY as an unavoidable reality. Participation in the event offered the possibility of ‘inviting’ other nations to conduct research on one’s national Antarctic territory, instead of having to deal with a *de facto* violation of national sovereignty—something that would carry strong repercussions. At the same time, collaboration on scientific research and data sharing was an opportunity to gain better insights on the availability of potential natural resources. Even when data was to be made freely available to any country, participation in organization, data collecting and data analysis would develop specific skills that would be much more difficult to gain by any country’s own means.

Meanwhile, an external challenge to Antarctic politics' delicate equilibrium was emerging as India proposed, in 1956, the inclusion of the 'Antarctic Question' on the agenda of the General Assembly of the United Nations, with the intention of finding an international solution to the political quarrel in Antarctica and avoiding the use of nuclear devices on that continent. The Indian initiative was resisted by the Antarctic claimant countries, and the opposition of Argentina and Chile disbanded any chance of a unified Third World block. For claimant countries, the involvement of the General Assembly in the question of Antarctica was undesirable, not only because it would mean accepting the control or even administration of an external body in a territory considered as under national sovereignty; but also because it would implicitly result in the incorporation of a great number of actors which, in their view, did not have any right to a say in the future of the frozen continent. As Adrian Howkins demonstrated, the case of India's proposal of the inclusion of the Antarctic Question was an experience that demonstrated the possibility of a common front between Argentina, Britain and Chile, constituting an important indication that an agreement could be found if common goals were established (Howkins 2008c). The lack of support and the strong reactions to the proposal in some countries finally made India withdraw the proposal.

At the eleventh hour, the political conflicts that the IGY had so successfully managed to avoid threatened to undermine all efforts. In 1956, the CSAGI was approached by the *Academia Sinica* in Peking, which offered to participate on the condition that Taiwan was excluded. The Chinese presented an extensive programme for the IGY and participated in the Moscow regional meeting in August and the Barcelona CSAGI Conference in September. By December the CSAGI received a letter from the *Academia Sinica* in Taiwan complaining about the participation of the representatives of the People's Republic of China (PRC) and demanding their deletion from the list of participating countries. The situation posed a difficult dilemma for the CSAGI. The *Academia Sinica* of Taipei was a member of the UCSI and had been already invited—even though it had not responded until the last minute—but the contribution of the PRC was much more relevant from a scientific standpoint. The Bureau tried to reach a compromise, but the PRC participants refused to participate

if any mention was made to any other China. In the end, the PRC carried out a great deal of the proposed programme but withdrew its participation from the IGY and the international scheme of cooperation and exchange of information that it had established. It was a reminder that no effort was exempt from political vicissitudes. Still, when the IGY was officially launched on 1 July 1957, it was clear that the international scientific institutions had been successful in implementing their own agenda, even in the face of many political obstacles. However, it was also an indication that science and politics were intrinsically intertwined and that, while there was no science without politics, certainly scientists and scientific institutions had gained a relevant role of influence within the political decision-making process.

The IGY resulted in a tremendous effort of international cooperation that produced a huge advance in the science frontiers of that time. More than 30,000 scientist and technicians from 67 countries undertook research all around the globe. The event conceived by scientists for scientists also involved the participation of other civilian and military personnel, who were necessary to assist with the logistics and administrative tasks of such an enormous enterprise. Defined by Hugh Odishaw, director of the US IGY programme, as: 'The single most significant peaceful activity of mankind since the Renaissance and the Copernican Revolution.' (Cited by: Sullivan 1962, 4), the IGY changed completely our understanding of the world.

During the process, politics and science became more linked than ever before, as science turned out to be the main peaceful competitive field, particularly for the great superpowers. The launching of Sputnik in 1957 is an example of how technological and scientific prowess was used for propagandistic purposes with the space race and other non-direct military developments as corollaries.

While IGY science was conducted with military logistical support, infrastructure and funding, Antarctica and outer space were also conceived as 'testing' sites for national prestige, human psychology, scientific internationalism, and information collection and sharing. (Collis and Dodds 2008, 567)

The reluctance of the Soviets to share advance information on the launching of Sputnik and the radio codes of their satellites expressed the limits of the

collaborative spirit of the IGY in overcoming the rivalries of the Cold War. As well, the lack of publicity of the US programme *Argos*, a series of nuclear explosions in the upper atmosphere with the objective of studying the effects of the geomagnetic field in the absorption of radiation, was expressive of the limitations. However, scientists and their institutions managed to resist the politics of secrecy imposed by the national security doctrine and demonstrated the possibilities that active international collaboration opened to the advancement of human knowledge of their world. In the words of Sullivan: 'The IGY's construction of scientific bridges across political chasms coincided with a general growth of science's role in diplomacy, as well as in national policy-making.' (Sullivan 1962, 417)

On the Antarctic side of the IGY, operations included some 5000 scientists and support personnel from 12 nations that operated through 56 stations (including 6 sub-Antarctic stations), 24 of which were constructed as part of the IGY (Summerhayes 2008, 326). The political interest behind much of the scientific efforts could also be seen in the way that the scientific research work was geographically distributed. All claimant states installed or operated bases on their respective claimed territories; the US installed the geographic South Pole station, which located them at the axis of all the sectors;³²⁰ and the Soviets installed the *Sovetskaya* station at the southern pole of inaccessibility, with similar intentions. As a whole, the IGY's scientific activities superseded all previous Antarctic expeditions taken together, with a clear leading role by the US and the Soviet Union. Even when agreeing that activities undertaken as part of the IGY could not be used for supporting or denying any territorial claim, the fact is that the level attained during the event strongly relativized all historical precedents. Furthermore, during the preparatory expedition of 1955-1956, the US took the opportunity to perform another 34 claims to Antarctic territory, totalling some 142 claims laid since 1929. None of those have ever been recognized by the government.

³²⁰ With the exception of the Norwegian claim, which did not adopt a pie-shaped form due to their rejection of the 'sector theory'. However, Norway also had claimed the South Pole plateau on occasion of Amundsen reaching it in 1911.

Anyhow, international cooperation prevailed over other considerations, and Soviet and US scientists and data were interchanged. Information was made publicly available—even when the process ended up being far from perfect—and Antarctic science advanced considerably. As result, a better understanding of the globe and the Antarctic continent was attained. The physicist Van Allen, the host of the famous dinner in Maryland where the IGY first started to take shape, arrived at one of the most impressive findings of the IGY, the determination of the geomagnetic radiation belts—known as the Van Allen Belts—which capture the radiation derived from solar winds protecting the atmosphere from destruction and helping to explain the phenomena of the aurora. Also, the understanding of the global dynamics involved in meteorology was possible through the collection and systematization of observations obtained around the world and compiled by ‘world data centres’, coupled with observations about the ozone layer, the greenhouse gases effect on the earth’s temperature, and the understanding of deep ocean current dynamics. As a whole, the IGY allowed a first comprehensive view of the globe’s complex geophysical dynamics, including the role of Antarctica in such a system. In that sense, the IGY not only connected the work of scientists coming from different corners of the world, but also established the links between the physical phenomena of those same corners, emphasising relatively unexplored phenomena such as the anthropogenic effects on climate change.

For the first time, Antarctica was approached as a whole and its geography was more definitively defined. Some of its features—that until then were just hypothesized—were firmly established in the base of regular and systematic information; and a better understanding of the physical and meteorological conditions of the inner land was reached. The harsh conditions and the determination of the ice thickness confirmed the repeatedly assessed unfeasibility of economic exploitation of Antarctic natural resources, reinforced by first-hand experience obtained in the field. As Philip Law, director of the Australian Antarctic Division, had expressed, the research up to the end of the IGY had not identified any mineral deposit of commercial significance (Sullivan 1962, 336), something that would help reach a political agreement at the Washington Conference of 1959.

A relatively well established community of Antarctic scientists was in formation and specialization, as Antarctic science become a field of specialty. Among a series of scientific international institutions that resulted from the IGY,³²¹ a specific Antarctic institutional body, the Special Committee on Antarctic Research (SCAR)—later on Scientific Committee for Antarctic Research—was created to establish a bridge between the different national Antarctic bodies and scientists. SCAR was created at a special meeting convened in The Hague in February 1958 with the aim of studying the continuity of research in Antarctica. During that meeting, the Soviets announced their intention of continuing their Antarctic work, a willingness that was also shared by the other parties despite the fact that many were planning to reduce the scale of their operations. A whole scientific agenda was being initiated as Antarctic science was only at its commencement, and further research was necessary.

We haven't examined one percent of the area geologically. We have only scratched the surface of our ignorance. So that for many years to come, perhaps as many as thirty years, the most important export of Antarctica is going to be scientific data. (Gould *apud* Peterson 1988:70)

With the IGY coming to an end, on 11 July 1958, the Soviets suggested to the CSAGY extending the IGY for another year—following a previous consultation with the US about the possibility of extending the IGY (Gan 2010a, 247). Accordingly, during the CSAGI meeting that year in Moscow, the Soviet suggestion was adopted by the Conference and named the year of ‘International Geophysical Cooperation’. That situation put the parties in a predicament. Without an international agreement for Antarctica the situation could become critical with the Soviets and the US unlikely to retreat from their stations on Antarctica and the main dispute between the Argentines, the British and the Chileans still unsolved.

Nonetheless, by that time, the US had begun confidential consultations with the other participants in the IGY Antarctic programme in order to obtain an International agreement that could suspend the conflicts regarding the sovereignty

³²¹ Among them we can name the Special Committee on Oceanic Research, SCOR; the Committee on Space Research, COSPAR; and the International Geophysics Committee, CIG.

issue and secure the continent for peaceful use and scientific investigation. Thus, the Soviet Union's announcement only reinforced the path already put in motion by the US invitation to preliminary negotiations for an Antarctic Conference.

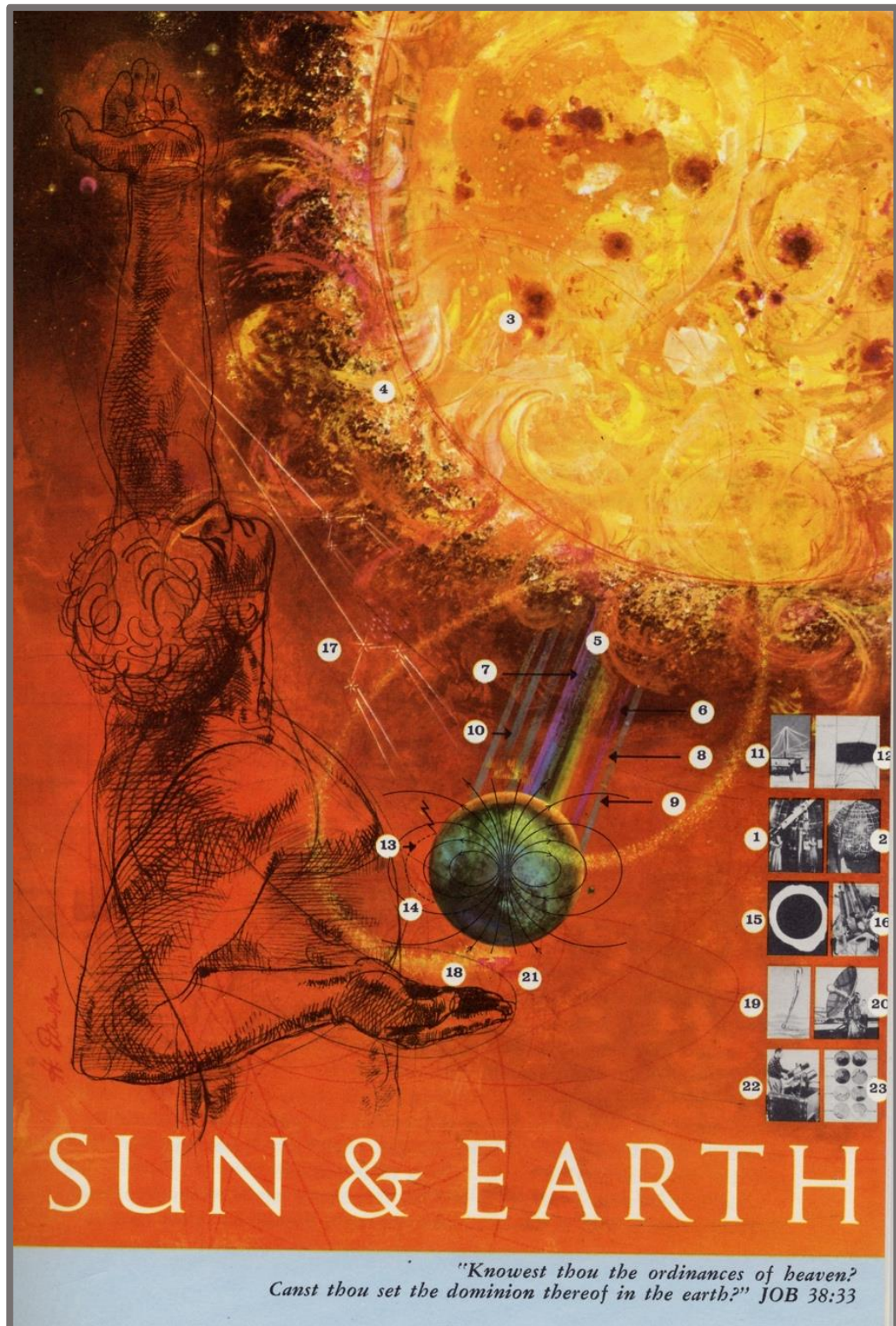
Through this phase of preparation and materialization of the IGY, the science regained initiative and prominence. The Second World War's legacy linked science and politics, as science became a particularly powerful strategic resource and scientists became more involved in the political decision-making process. At the individual level, prominent scientists functioned as political advisors—as was the case of Lloyd Berkner, Brian Roberts and James Wordie, just to name a few—imprinting some of their ideas on the political agenda and acquiring a better understanding of the political process. Their technical expertise on matters unknown to politicians made them essential in informing political decisions; while their international links, a product of academic practice, constituted an asset for favouring international dialogue and cooperation. That allows us to consider them as a genuine Antarctic epistemic community, which would successfully promote their vision for international scientific cooperation.

Nevertheless, that did not mean that they would be exempt from political considerations, as they were, at the same time, citizens of their respective nations and members of their administrative bodies and, therefore, their actions would be always be also framed by strategic, economic and political concerns (Greenaway 1996, 56–59). Yet, their vision, values and ideas would definitively change Antarctic politics and would, if not decide, at least make possible the political process that resulted in the Antarctic Treaty.

At the institutional level, the IGY promoted changes on both domestic and international structures. National Antarctic bureaucratic structures were adapted in order to provide a more scientific appeal and sustain the effort of such a huge enterprise. Scientific personnel filled those structures, generating some conflict but also a mutual adaptation with military personnel. At the international level, the creation of coordinating commissions institutionalized the international cooperation on Antarctic research, particularly through the creation of SCAR. The marked 'scientific' character of such bodies also endowed them with greater legitimacy and

favoured the interchange of ideas, opinions and views in the scientific community, in a setting that was much more ‘sanitized’ from political considerations.

Picture 30: Poster ‘Sun & Earth’ of National Academy of Sciences IGY ‘Planet Earth’ educational outreach booklet, 1958.



Source: National Academy of Sciences. USA

On the more abstract level, the IGY constituted a big promotor of the Antarctic continent and Antarctic science in the public mind. At a time when the tales of adventure that captured the public attention in the past were no longer attractive, science fired the public imagination through the launching of artificial satellites and the discovery of a whole new world. But the event also put Antarctica in the public focus promoting the action of discovering the hidden wonders of the last unknown continent. The IGY itself was planned to include an educational aspect. Thus, publicity was not only an indirect effect of the scale reached by scientific research but also a premeditated intentional goal. The international scale that the event attained avoided criticism and was perceived as a triumph of science and international cooperation over political considerations; particularly because of the participation of the Soviet Union alongside the US and other Western countries.

More importantly, the IGY constructed a political alternative for Antarctica through the freedom of access, the freezing of all claims, international cooperation, the sharing of scientific information and the participation of the Soviet Union. The establishment and year-round operation of numerous stations changed decisively the balance of Antarctic politics. The successful international cooperation and the political alternative constructed by the freezing of claims paved the way to a feasible agreement that could conceal the divergent positions about the territoriality of Antarctica and the conflicts raised by it. The compromise shown through the enormous effort necessary to undertake the Antarctic IGY challenges, made it possible to incorporate a sense of 'Antarctic' identity. The early incorporation of the Soviet Union into the IGY avoided a potential conflict that an autonomous initiative by the Soviets would bring, or the potential reaction that its exclusion would cause. Therefore, even though the Antarctic Treaty was not necessarily a direct result of the IGY, it is hard to imagine that the Antarctic Treaty would have been possible without the political alternatives opened by the IGY and its huge scientific and political experiment.

5.2 Antarctic Politics In-between

The momentum obtained by the organization of the IGY did not avoid further tensions between the different countries involved in Antarctic activities. Between 1953 and 1957, a combination of the prevalent logic of competition and the newly installed cooperative spirit had been characterizing the different nations' attitudes towards Antarctica. Since the end of 1947, the government of the United Kingdom had offered Argentina and Chile to submit the issue to the arbitration of the International Court of Justice (ICJ), and insisted it afterwards.³²² In all such opportunities, both South American countries argued that they considered their respective sectors as being national territory that precluded them from accepting the jurisdiction of any international organism.³²³

Since the Deception Island incident in 1953, the UK had studied the possibility of approaching the Argentines and Chileans in order to find some settlement for their conflictive claims. Even though they knew that acceptance of the ICJ arbitration was unlikely, they sounded out the Argentines to check if their position had moved.³²⁴ Instead, the British received a proposal from Chile that renewed their old 'standstill' proposal, with some modifications introduced by the United States. The British government rejected the idea, arguing that it would be unlikely that other parties—in particular the United States—would agree to limit themselves to a standstill accord in order to bring 'tranquillity to [the] British sector'.³²⁵ For their part, the Argentines came with their own proposal that would deepen the pre-existing tri-partite declaration by agreeing not to operate in locations where other parties were already present and to demilitarize the area. However, the British government also rejected

³²² Argentine Activities in British Antarctic Territory - Reply to His Majesty's Government Protest [AS 822/16/51 – N.25]; and Chilean Claims in the Antarctic [AS 1618/16/51 - N. 104 & 27] Further Correspondence respecting Antarctica - Part 2 - January to December 1948 [17703]: FO463/2. TNA/UK.

³²³ On the diplomatic interchange on that regard see the collection present in: Further Correspondence respecting Antarctica: FO463.

³²⁴ For that negotiation see the series of correspondence present in: Further Correspondence respecting Antarctica - Part 5 - January to December 1953 [19433]: FO463/5. TNA/UK.

³²⁵ Mr. Eden to Sir H. Mack, 21 October 1953. Further Correspondence... *Op. Cit.*

that idea on the grounds that it would weaken their position in relation to Argentina with no particular gain as retribution.³²⁶

Without seeing any prospects in the South American proposals, the British government renewed studying submitting the issue of Argentine activities in Antarctica to the Security Council of the United Nations,³²⁷ something that had been considered since the Deception Island incident.³²⁸ The idea was promoted due to the changes in the composition of the Security Council which could favour the inclusion of the item on its agenda, however no decision on the substantial matter of the question was expected nor the possibility of requesting the parties to submit the issue to the ICJ. The basic idea was to obtain a decision requesting maintaining the status quo in the region, as a way to forestall Argentine activities in Antarctica. With Perón not showing any sign of downscaling activities in Antarctica, the British even studied the possibility of not renewing the tri-partite declaration, but none of those proposals ended up going forward. On 21 December 1954, the British finally offered to Argentina and Chile submitting the issue to an independent ad hoc arbitral tribunal, a proposal that was rejected on the same grounds as the submission to the ICJ.³²⁹ That refusal is hardly surprising in the case of Argentina, which was planning to raise their presence on an unprecedented scale.

In Argentina, Pujato was devising a plan for a much stronger hold on the Antarctic. Being outside of the claimed Chilean region and avoiding the prospects of

³²⁶ Mr. Eden to Sir H. Mack, 31 October 1953. Further Correspondence... *Op. Cit.*

³²⁷ Sir Gladwyn Jebb to Mr. Eden, 8 January 1954. Question of Appeal by Her Majesty's Government to the Security Council on Argentine Activities in the Antarctica; and Exchange of Telegrams about Confidential Soundings in Buenos Aires - Sir Henry Mack to Mr. Eden, 6 May 1954. Further Correspondence respecting Antarctica - Part 6. January to December 1954 [19927]: FO463/6. TNA/UK.

³²⁸ Dispute with Argentina and Chile over the Falkland Island Dependencies - Sir Galdwyn Jebb to Mr. Eden, 7 April 1953; Exchange of Telegrams about the Argentine Government's Intention to establish an Air Force Base on Dundee Island (1) - Mr. Eden to Sir H. Mack, 5 July 1953; and Conflicting Anglo-Chilean Claims in the Antarctic - Mr. Stirling to Mr. Barclay, 9 July 1953. Further Correspondence... Part 5. *Op. Cit.*

³²⁹ Minister of Foreign Relations [Arg] to British Embassy, 4 May 1955; and Minister of Foreign Relations [Chile] to British Embassy, 6 May 1955; Expediente N° 31 Anexo 3: Soberanía en Tierras Antárticas. Se remiten a las Representacion diplomáticas y consulares de la República copia de la nota que el Gobierno Argentino envió a la Corte Internacional de Justicia: AH/0007/3. AHC-MRE/ARG.

a physical clash with the British operatives working in Antarctica, the Argentine colonel proposed establishing an army station south of the Weddell Sea. The endeavour would locate the station at the southernmost point at that time and would have the additional benefit of constituting the point of departure for what was its final goal, the reach of the pole. With that in mind, army personnel were intensively trained in extreme cold operations in the Argentine Andes. But the weak link in his plan was the absence of an icebreaker that could push into the heavy pack of the Weddell Sea that had wrecked many previous expeditions. Without the possibility of acquiring one in the short time available, Pujato managed to agree the construction of a suitable vessel in a short period of nine months with the West German shipbuilder *Seebeck Werft*, of Bremenhaven, who under the specifications of the IAA,³³⁰ delivered the ship within the promised timeframe (Fontana 2014, 267–269).

Picture 31: The Argentine Icebreaker ‘San Martin’ navigating in the southern waters, Ca. 1955



Source: Instituto Antártico Argentino. Argentina.

By the same time, Dr. Vivian Fuchs, head of the FIDS, presented a plan for a trans-Antarctic crossing to the Polar Committee, which was received with little

³³⁰ The Argentine Republic's Ice-Breaker 'General San Martín' Undated [Ca. 1955]. Report handed in by the Argentine Delegation in the Paris Conference [A1522/41]. International Geophysical Year (1957 to 1958); IGY Report of Antarctic Conference in Paris; territorial claims in Antarctica; Soviet interest in the region; programme of national committees: FO371/113961. TNA/UK.

enthusiasm. The proposal lacked any scientific appeal and was centred around the romantic idea of the glorious explorations of the past and the supposed prestige that would accrue from it. Fuchs had studied the possibility of starting from Stonington Island on Marguerite Bay—where the Argentine *San Martín* station was located—or from Vahsel Bay. The option of Marguerite Bay had the advantage of counterbalancing the presence of the Argentines but was also the longer and more expensive option.

At the end of December 1954, the Argentine icebreaker *General San Martín* departed in the direction of Antarctica.³³¹ In the first days of January 1955, the *San Martín* forced its way into the heavy pack of the Weddell Sea, reaching 78° of south latitude. The expedition was very well equipped including six weasel vehicles, two aeroplanes, a helicopter and forty sledge dogs. The expedition explored the Filchner ice barrier by air and decided to establish the Belgrano Base some 3 miles over the ice from where the *San Martín* was anchored. Pujato and his men explored about 1,000 miles of unseen lands and conducted a series of scientific observations while they prepared their attempt to the pole. That was added to the works developed by the seven Argentine ships operating in Antarctica and the other seven stations conducting research and installing and maintaining a network of navigational beacons. On the whole, the Argentine Antarctic campaign of 1954-1955 was a considerable deployment of resources, men and infrastructure and was in line with the preparations for the IGY.

Britain could not ignore the activities of Argentina but did not have many options that would not result in a considerable cost or the possibility of a military clash with the South Americans. Of particular concern was the acquisition of the icebreaker by Argentina and the limited range of operations of the British frigate present in the region. The British were at a disadvantage compared to the greater operability offered to Argentina by the *San Martín* and started to study the possibility

³³¹ The Weddell Sea Cruise – December 1954-January 1955, Undated [Ca. 1955]. Report handed in by the Argentine Delegation in the Paris Conference [A1522/41]. International Geophysical Year (1957 to 1958); IGY Report of Antarctic Conference in Paris; territorial claims in Antarctica; Soviet interest in the region; programme of national committees: FO371/113961. TNA/UK.

of acquiring an icebreaker that could offer them the same operational range. Nonetheless, the prospects of acquiring a suitable vessel on short notice were very restricted and they even commenced negotiations with the US in order to obtain assistance from one of the American icebreakers to help them with the logistics for their upcoming programmed IGY activities in the Weddell Sea area. In particular, they wanted to avoid the possibility of having to be rescued by the Argentines as they considered it desirable that the UK 'should not be beholden to either Argentina or Chile in any way' so 'It was hoped that the occasion would not arise in which any British party would have to be rescued by parties from either of those countries.'³³²

In a manoeuvre designed to show a display of force, the *HMS Vervan Bay* executed a firing exercise in the vicinity of an Argentine tanker, probably as a reminder that the British had the resources and the resolve to act if necessary. But the reaction wasn't limited to the theatre of operations. In May 1955, Churchill unilaterally presented to the ICJ almost identical cases against Chile and Argentina regarding the sovereignty in the Antarctic Peninsula region. Considering that 'the sovereignty of certain Antarctic and sub-Antarctic territories which belong to the United Kingdom under prior, long-standing, and well-established legal titles...', the British presentation boasted of their historical background of exploration and administration based on the issuing of fishing and whaling licenses in the area and the absence of formal Argentine or Chilean 'protest' prior to the late 1920s, considering the South American activities in the area as 'encroachment' and expressing concern about the recent Argentine activities in the Vahsel Bay region (*Antarctica Cases: United Kingdom v. Argentina; United Kingdom v. Chile* 1956).

As neither Argentina nor Chile had accepted the compulsory jurisdiction of the ICJ, the possibility of the intervention of the Court depended on the acceptance of both countries of such jurisdiction. However, as was expected and advanced in the many responses to the UK government's suggestions, the Argentines and Chileans

³³² Minute of a Meeting held in Room 437..., 5 September 1955 [WAF 573/574/01]. Minute of a meeting held at the Colonial Office on Sept 5 to brief UK Delegation to the I.G.Y. Conference at Brussels. International Geophysical Year (1957 to 1958); IGY Report of Antarctic Conference in Paris; territorial claims in Antarctica; Soviet interest in the region; programme of national committees: FO371/113961. TNA/UK.

rejected such jurisdiction. In a letter submitted on 15 July 1955 to the Secretary of the ICJ, the Argentine government rejected the idea that the Argentine sovereignty over Antarctica should be submitted to any kind of international court under the principle that territorial sovereignty could not be questioned and that Argentina held ‘unquestionable rights and titles derived and grounded on legitimate means of territorial acquisition and a widely acknowledged, pacific and effective possession’.³³³ After a similar response from the Chileans, on 16 March 1956, the ICJ resolved that as there was no acceptance from Argentina or Chile on its jurisdiction it could take no further steps and ordered the case to be removed from the list of the ICJ.³³⁴

The Argentines were in favour of calling an international conference and offered to hold one in Buenos Aires. The last season had strengthened their position in Antarctica and they were in a favourable position to negotiate the terms of a division based on a de facto occupation. However, the greater challenge to the plan of strengthening the Argentine position in Antarctica would not come from the United Kingdom, but from Buenos Aires. A political crisis had unleashed an attempted *coup d'état* against Perón that failed, but another was repeated a few months later resulting in the ousting of the president, his replacement by a military dictatorship, and the exile of the leader. The new military government was not short of nationalist feeling, but lacked the Antarctic ambition of Perón (Howkins 2008b, 243–244). Notwithstanding not being a ‘Peronist’, Pujato was considered too close to Perón and his ascension was something that the new government wanted to avoid. Just after the coup, Pujato was sacked from his position of director of the IAA, and in his place was named Rear Admiral Rodolfo Panzarini.

³³³ The whole paragraph says: ‘*El Gobierno argentino se ve obligado a declararlo así, en virtud del fundamental principio de que la soberanía territorial no debe ser sometida a discusión ni puesta en tela de juicio, máxime cuando, como en el caso de la República Argentina en relación con su sector antártico, dicha soberanía se fundamenta en incuestionables derechos y en títulos que derivan y se apoyan en modos legítimos de adquirir el dominio territorial y en una efectiva, conocida y pacífica posesión.*’ (Remorino to Secretary of International Court of Justice, 15 July 1955. Nota a la Corte Int. de Justicia – 15 Julio 1955: AH/0007/19. AHC-MRE/ARG.

³³⁴ Antarctica case (United Kingdom v. Argentina) and (United Kingdom v. Chile), Order of March 16th, 1956: I.C.J. Reports 1956, p. 12, 15. In: Expediente N° 31, 2da Parte – Propuesta del Gobierno de Gran Bretaña de someter el diferendo de la Antártida al arbitraje de la CIJ de la Haya...: AH/0007/5. AHC-MRE/ARG.

The shift in domestic politics meant the loss of political support for Pujato's original plan. The establishment of a permanent population was discarded and the support for the continuation of the Belgrano Base reduced. In the end, Pujato's plans of reaching the pole were deserted. The overthrow of Perón and the demotion of Pujato, added to the imminent realization of the IGY, offered some relief to the British worries.

In Britain, by contrast, Fuchs's plans for the trans-Antarctic crossing were advancing. The Argentine establishment of the station in the Filchner Barrier had made him decide on the Vashel Bay location. During the 1955-1956 season, Britain established two new bases in the FID and set up the station for the transcontinental crossing. New Zealand joined the effort by providing the Ross Sea base and the party that would lay depots between the Ross Sea and the pole. At last, New Zealand would have an Antarctic expedition, but the hope that such action could constitute a perfection of New Zealand's title to the Ross Dependencies were long vanished.

Picture 32: One of Fuchs' Commonwealth Trans Antarctic Expedition's vehicles. Ca. 1957



Source: British Antarctic Survey, UK.

5.3 The Time of Politics: The Washington Conference and the Antarctic Treaty

The political process that ended with the signature of the Antarctic Treaty begun just a few months before the inauguration of the IGY, in August 1957, through a series of secret negotiations held between the United States, Britain, New Zealand and Australia, whose officials met several times in Washington D.C. to discuss the political alternatives for Antarctica (Howkins 2008b). By the middle of 1957, Australia had become uneasy about the Soviets' expressed intentions of extending the IGY and, particularly, about the decision to create a scientific specialized committee for studying the feasibility of continuing and coordinating scientific research in Antarctica (that would become SCAR).³³⁵ Added to that concern the United Kingdom's financial constraints made it very difficult to sustain their level of Antarctic activities in order to counteract the Argentine and Chilean presence.³³⁶ In order to assess the situation and coordinate their political position, the British government invited the governments of Australia, Canada, New Zealand, South Africa and the United Kingdom to send representatives for a meeting that was to be held in London.³³⁷ They were aware that the United States was intensively studying the political problem of Antarctica and that it was likely that they would come forward with some proposition, for which they wanted to be prepared and have 'clarified' their ideas on the matter.

The level of scientific collaboration attained as part of the IGY had enabled but also forced the need for a political stable solution for the continent. As the idea of a settlement on the basis of national claims proved unfeasible, the parties advanced to studying different proposals for some form of internationalization of the continent that could acquire a limited character. The objectives were to attain the political

³³⁵ Kevin to Cooper – Antarctic I.G.Y., 22 July 1957; Casey to Tange, 11 July 1957 and Antarctic: Proposed Extension of the I.G.Y., 23 July 1957. Antarctic 1957: A10299/A6/425236. NAA/AUS.

³³⁶ From Australian High Commission, London – Antarctic, 11 July 1957. Antarctic 1957: A10299/A6/425236. NAA/AUS.

³³⁷ Canada was invited despite not having any direct interest in Antarctica under the consideration that it, along with South Africa who had expressed interest in Antarctica, would increase the value of discussions. See: Text of letter from Mr. MacDonald, Undated [Ca. July 1957]. Antarctic 1957: A10299/A6/425236. NAA/AUS.

stability of the region, to limit the participation of the communist bloc, and to avoid opening participation to United Nations interference. The idea was to present a solid front that would force the acquiescence of other interested parties.

A paper circulated by the United Kingdom government to the other Commonwealth governments showed their intention to exclude the Soviets, something that the US also wanted. The UK proposal was to form an international authority constituted by a Board of Directors, in which delegates of each of the claimant countries³³⁸ and the US—which by that time was expected to have advanced a claim—would be present to decide and regulate on Antarctic issues, along with a Secretariat to facilitate the administrative work. Regulation regarding freedom of access, payment of royalties for shore stations and the exploration and exploitation of minerals were considered necessary to be decided at an early stage. The installation of military bases was forbidden, and the administration of national bases would be under national law, leaving open the possibility of establishing a common law for the area if necessary.³³⁹ Considering that ‘The main benefits [*sic*] likely from work in the Antarctic are likely to be not minerals etc. but advances in fundamental knowledge; international cooperation is best way of achieving this’,³⁴⁰ the British proposal suggested that the parties coordinate their work in Antarctica along the IGY lines.

The British proposal was not particularly favoured in Australia, as it would mean replacing their territorial sovereignty with an international authority and it was considered that the exclusion of the Soviet Union would be politically unsustainable. As the Australian position threatened the possibility to reach an international agreement, the British and New Zealand governments coordinated action in order to move the Australian government to a more acquiescent attitude.

Meanwhile, the Australian, New Zealand, United Kingdom and US governments actively looked for a formula that could ensure a filter to participation

³³⁸ Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom.

³³⁹ From Australian High Commission... *Op. Cit.*

³⁴⁰ Annexe C. Outline of United Kingdom Plan for International Control of the Antarctic, Undated [Ca. 1957]. Antarctic 1957 – Part 2: A10299/A7/1886473. NAA/AUS.

without creating much political fuss, as the proposal of India at the AGNU had already focussed attention on what was accused of being a colonialist and discriminate attitude. The British came up with the proposal of using science, and particularly, the participation of the Antarctic programme of the IGY, as a way to restrict participation, include the Soviets, but avoid any further incorporation from the communist bloc. Unintentionally, the IGY had offered an 'objective' criteria to determine a necessary level of Antarctic commitment that could be defended against political criticism (Peterson 1988, 89). The US started hold consultations with its American allies in order to reach some basic consensus before advancing in such direction. Ambassador Paul C. Daniels, formerly responsible for the American department, was entrusted with the task due to his knowledge about the South American positions (Beck 1985). Both Argentina and Chile expressed themselves in favour of taking part in the negotiations, but rejected the idea of any form of internationalization.³⁴¹

With the approval of the two South American countries, the 12 countries undertaking research on the Antarctic continent as part of the IGY were considered for participation in the convention: Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the United Kingdom and the United States. By March 1958, the United States formally incorporated the other parties to the consultation process, and on 2 May 1958, Eisenhower invited the 11 countries:

...to negotiate a treaty providing for freedom of scientific investigations and continuation of international scientific cooperation in Antarctica and ensuring that Antarctica be used for peaceful purposes only. (Coffman, Sampson, and Glennon 1991, 842)

The same month, confidential preparatory talks between the 12 countries began in Washington. The US intention was to advance on substantive matters in order to facilitate the consensus before holding a public conference. The preliminary

³⁴¹ Contreras to Elton, 14 May 1958. Grupo de Trabajo Preparatorio para Conferencia Antártica: Archivo General Histórico, Fondo Antártica/Vol. 53. AGH-MRE/CHL.

talks extended for almost 16 months, from the middle of June 1958 until the middle of October 1959, just a few days before the actual ‘Conference on Antarctica’ started. In total, they represented about 60 meetings, all located in Washington D.C. and usually hosted in the National Academy of Science.³⁴²

The preliminary negotiations did not follow a particular plan or agenda and ended up being mostly determined by the Soviet attitude (R. Hall 1994; Beck 1985). In general, the debates gravitated around procedural aspects: date and location of the conference, access to participation and voting rules; and substantive: principles to be included on the preamble, area of application, peaceful use, demilitarization, preservation of political status quo, jurisdiction, collaboration on administrative procedures, accession and expiration and renewal, among others.

The only items that were not subject to debate were the basic principles advanced in Eisenhower’s invitation: the peaceful use of the continent and the freedom of scientific research and international cooperation (Coffman, Sampson, and Glennon 1991, 859). During negotiations, there were different groups that tried to establish a consensual position before the official conference. For example, Argentina, Australia, Chile, New Zealand the US and the United Kingdom formed the ‘group of six’ and Australia, New Zealand, South Africa, the United Kingdom and the United States, the ‘group of five’.³⁴³

The most controversial issue was the Soviet stance of refusing to deal with ‘substantial’ issues, which, in their understanding, had to be dealt with in the actual conference and not in such informal meetings. That attitude led some of the parties to consider the possibility of a Soviet withdrawal from the Conference as it seemed directed to stall the negotiations at an early stage. However, the Western delegations decided to continue to express their views until the Soviet attitude finally changed and they entered into the debates on ‘substantial’ matters.

³⁴² Other locations of the meetings included the National Science Foundation, the French Embassy in Washington and the Department of State.

³⁴³ See: FO371/138958 to 138959. TNA/UK.

The Soviets were interested in broadening participation in the Conference and delayed the advancement of other issues. While all other parties were against opening participation—particularly in the face of the possibility of inclusion of parties from the communist bloc—Argentina, Australia and Chile were the most vociferous in conditioning their involvement in the agreement on the participation being limited to the 12 IGY Antarctic countries, even though they were open to accepting a wider formula for scientific research. In the end, the Soviets reluctantly accepted the majority position.

The Argentines and Chileans presented a strong resistance to the sovereignty issue, insisting on the need to include a clause that ensured the preservation of the status quo. With the Australians also interested in such a guarantee and the other parties inclined to support such provision, the Soviets and French expressed their view that it was preferable to entirely avoid the issue. That debate forced Argentina and Chile to insist in that they would not accept any Treaty in which such a guarantee would not be present, leaving it clear that such exclusion would result in their withdrawal from negotiations. As the debates had no definitive character, both the Soviet Union and France limited themselves to insisting on their views, leaving the disagreement for a later solution.

In order to promote international collaboration in scientific research, the Chilean delegation proposed on several occasions the establishment of an International Antarctic Scientific Institute, in which all interested parties—including other countries besides the 12 present—could collaborate. However, the proposal went almost unnoticed and no position in favour or against it was directly expressed.

Other issues remained conflictive, such as the use of military personnel for logistic assistance to Antarctic operations, the inspection system required for assurance of the peaceful purposes of the operations and the membership of the proposed treaty. The Chilean intention of introducing a proposal for the protection of maritime natural resources was not carried out, probably as a consequence of Ambassador Daniel's reluctance to introduce such matters, which he considered as

out of the scope of the conference.³⁴⁴ Slowly, a consensus on the issues to be addressed at the conference was achieved and, on 28 May 1959, the 12 parties publicly announced that they had agreed to convene a conference on 15 October 1959, in Washington D.C.³⁴⁵

During the preparatory meetings for the Antarctic Treaty, there is no evidence of direct involvement of scientists or scientific institutions.³⁴⁶ The secrecy involved in negotiations and the particularly political character of the conversations justified that exclusion. Moreover, an original proposal calling for observers from the United Nations and from SCAR to the convention was withdrawn during the preliminary talks.³⁴⁷ On several occasions during the negotiations the role that SCAR would have on the future regime for Antarctica was discussed, including the possibility of dealing with the system of observations or acquiring a more active role, but no advances in that regard resulted. Furthermore, a proposal for mentioning SCAR in the Treaty by Chile was rejected by other parties, considered undesirable.³⁴⁸

On the other hand, during this process science operated several functions through an indirect influence. On the abstract level, it informed political decision-makers about the infeasibility of economic activities on the continent, which favoured

³⁴⁴ Contreras to Villaroel, 19 June 1958. Instrucciones para Representante de Chile a Grupo de Trabajo preparatorio de Conferencia Antártica. Grupo de Trabajo Preparatorio para Conferencia Antártica: Archivo General Histórico, Fondo Antártica/Vol. 53. AGH-MRE/CHL.

³⁴⁵ Adm/1 - Preliminary Information, September 1959. RG 43 Antarctica Conference - Adm. 1-5. Program Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #1. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

³⁴⁶ See the collection of memorandum of the preparatory meetings in: Antarctica - Minutes of Informal Working Group. Program Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #7. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

³⁴⁷ See: Provisional Rules of Procedure, 26 May 1959. Revised Draft Rules of Procedure, 10 November 1959. Draft Rules of Procedure, 16 October 1959 and Memorandum of [44] Meeting, 22 April 1959. Antarctica - Minutes of Informal Working Group. Program Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #7. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

³⁴⁸ Memorandum of [12] Meeting, 12 August 1958. Memorandum of [13] Meeting, 14 August 1958. Memorandum of [31] Meeting, 19 January and Memorandum of [36] Meeting, 24 February 1959. Antarctica - Minutes of Informal Working Group. Program Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #7. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

the British pursuit of an international agreement that could reduce the need of direct involvement in Antarctica while maintaining political influence (Howkins 2008b). In addition, as analysed before, it allowed the inclusion of the Soviets and provided a legitimate criterion, which allowed limiting participation and the offering of selfless aims to be presented to the international community:

The criterion that a country must be active in Antarctic scientific research to get a seat at the political negotiating table offered a convenient means of controlling participation without appearing blatantly exclusionary. (Howkins 2008b)

On the institutional level, it provided the structure by which international scientific cooperation could be maintained and articulated with politics. In sum, without science it is hard to see how such disparate positions and interests could have come to a consensus that would produce an international arrangement for the whole Antarctic continent.

On 1 December 1959, the Antarctic Treaty was finally signed by the 12 countries that participated in the Antarctic activities of the IGY. Antarctica was finally demilitarized; a ban on nuclear testing of any kind and disposal of radioactive material was in place; and the continent was reserved for scientific purposes and international cooperation on behalf of all humankind. However, when the negotiations of the conference started on 15 October 1959, the outcome of the conference was far from clear, and even the possibility of coming to an agreement was uncertain (Howkins 2008b).

Even before the conference started, the French delegation informed that they were instructed to reject the possibility of ‘freezing’ all claims, as it would be contrary to the French law (Howkins 2008b). As the agreement on freezing the territorial issue was a prerequisite for reaching any consensus, negotiations seemed condemned to failure even before they started. However, negotiations got under way, surprisingly with a favourable predisposition from the Soviet delegation. The US took the initiative and presented the only draft for an Antarctic Treaty, received sympathetically by the Soviets. The two pillars for negotiations were demilitarization and freedom of scientific activities, which both appeared to be completely consensual

among the parties. The demilitarization of the continent was received with unexpected acceptance on the part of the Soviets. Apparently, neither the Soviet Union nor the US wanted to extend the theatre of competition of the Cold War to Antarctica; and Argentina, Chile and the UK were attracted by the prospect of de-escalation of their Antarctic competition in the peninsula area.

However, the first important difficulty faced during negotiations appeared when the Argentine delegation, backed up by the Chileans, protested against the complete freedom of scientific research.³⁴⁹ Argentine and Chilean delegations looked for some kind of limitation to the freedom of access, in order to establish the necessity of previous approval by the claiming state in which alleged sector the activity would take place. They were fearful that complete freedom of scientific research could mean opening up their respective Antarctic territories to the actions of the Soviets and that that could be considered as a veiled renouncement of their respective sovereignty (Howkins 2008b). The pre-requisite of previous approval by the claimants was completely unacceptable to the non-claimant countries and directly challenged one of the main pillars of the proposed treaty. Consequently, the Argentine objection seemed to condemn negotiations to failure.

An agreement about the sovereignty issue and the freedom of scientific research were not reached yet when the Argentine delegation presented another proposal that would cause even more distress: the inclusion of a paragraph in the first article for a complete banning of nuclear testing and explosions in Antarctica.³⁵⁰ The

³⁴⁹ See: i) COM. I/P 2 - Item 2: Freedom of Scientific Investigation in Antarctica - Proposal of the Delegation of Argentina with Regard to Article II of Document 17. 19 October 1959. Antarctica - COM. I/P 1-16; ii) COM. I/SR/2 (Final) - Summary Record - Second Meeting of Committee I - Monday, 19 October 19 1959 and iii) COM. I/SR/3 (Final) - Summary Record - Third Meeting of Committee I - Tuesday, 20 October 1959. Antarctica - COM. I/SR/1-11. Program Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #1. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

³⁵⁰ COM. II/P 3 - Item 1: Peaceful use of the Antarctic - Proposal of the Argentine Delegation Regarding the Draft of the Working Document on Article I, 19 October 1959. Antarctica - COM. II/P/ 1-16. Program Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #1. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

The proposal was to incorporate as paragraph 3 of Article I, the following: 'Nuclear test and explosions of any type, regardless of their character and purposes, shall be prohibited.'

proposal was motivated by fears of a nuclear fallout in the southern hemisphere due to the proximity of the southern tip of the continent with the Antarctic Peninsula. The addition was strongly rejected by the US delegation, which, since the Indian proposal at the AGNU, had established a policy of intentionally avoiding the issue (Musto 2017). Initially, the Soviets assumed a position contrary to the Argentine proposal, but eventually they would change their opinion and express their agreement. The US delegation insisted on the inadequacy of the conference to deal with nuclear issues and alleged that such a provision would restrict the freedom of scientific research, one of the main principles behind the conference.

Gradually, the Argentine proposal gained the support of other southern hemisphere parties, such as Australia, Chile and South Africa, fearing that nuclear testing in Antarctica could affect their territories through radiation. The Argentine and Australian delegations came with a joint modified proposal in order to gain US approval.³⁵¹ The modified proposal was actually elaborated by the British delegation³⁵² and allowed the non-military use of nuclear devices with previous approval from all other parties (Howkins 2008b; Musto 2017). While the US expressed their favourable view to the modification, the Soviet delegation expressed that they could not accept such arrangement. The Soviet position was set at the extremes: they were willing to avoid the issue of nuclear devices, but if there was going to be any provision on the matter, they would only accept a complete prohibition. Such an attitude roused suspicion about the real intention of the Soviets, and some came to believe that their real agenda was to disrupt any agreement and divide the ranks of the Western countries (Howkins 2008b; Neidle and Shoemaker 2000).³⁵³

³⁵¹ COM. I/P 12 (Rev. 1) - Proposal by the Delegations of Australia and Argentina for a New Article to be Inserted Between Articles III and IV of the Proposed Treaty, 30 October 1959. Antarctica - COM. I/P 1-16. Program Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #1. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

³⁵² Antarctic Conference, Washington, October to December 1959 - Personal Journal by Brian Roberts. Brian B. Roberts - Journals Oct - Dec 1959 (Antarctic Treaty Washington Conference): MS 1308/9. p.56 [28 October]. SPRI-A/UK.

³⁵³ Antarctic Conference, Washington, October to December 1959 - Personal Journal by Brian Roberts. Brian B. Roberts - Journals Oct - Dec 1959 (Antarctic Treaty Washington Conference): MS 1308/9. pp.73-74 [3 November]. SPRI-A/UK.

The impasse became more critical when the Argentine National Congress passed a resolution banning all kind of nuclear explosions and testing in '*Antártida Argentina*', limiting the options open to the delegation. Eventually, the US understood that if it were to be a Treaty it would be without allowing the use of nuclear explosions. By the middle of November, the US was considering the proposal of total ban. In the end nuclear explosions and the disposal of radioactive waste were prohibited, pending the possibility of the application of any specific agreement in the matter in which all parties also be parties of the Treaty. The agreed clause did not preclude the use of nuclear energy, and the US Atomic Energy Commission had expressed to the leading delegate that they had no interest in Antarctica. By 28 November, the Soviet proposal for a complete ban was adopted, removing the principal obstacle in place for reaching an agreement.

The nuclear issue gave an opportunity to the US delegation to bargain other questions, such as the objection of the Argentine delegation to the freedom of access. Other conflictive issues were also solved by compromise which was attained through informal talks between representatives. After much negotiation, the French finally agreed to the freezing clause and the Soviets accepted a limited participation by restricting membership to scientifically involved countries; having the guarantee thanks to the consensus rule that they would not to be bypassed by a Western coalition (Peterson 1988). The institutional structure was decided to be kept at a minimum through regular meetings, rather than any permanent structure that could be interpreted as an international instance. The possibility of revision of the Treaty was opened by a restricted mechanism of a period of 30 years, after which any party could call a conference for revision and amendment of the Treaty. All those compromises allowed that, after six weeks of lengthy negotiation and substantial bargaining, an international treaty for Antarctica was signed, reserving the continent for peaceful use and scientific investigation.

During the negotiations, scientists and scientific institutions played different roles in facilitating the agreement. Some influential figures such as B. B. Roberts took a direct role in the negotiation process, while others worked as external advisors or produced an advisory committee, as was the case with the US National Science

Foundation.³⁵⁴ Nonetheless, the participation of scientific institutions was purposefully avoided; and the treaty established that, while science is the main legitimate Antarctic activity, it is governments who hold the rightful role of political agents.

On the other hand, the indirect influence of science was felt by the inclusion of the values that were promoted since the very beginning of Antarctic exploration and that were crystalized through the IGY: international cooperation and peaceful use. The IGY's successful experience in the freezing of claims on behalf of science and international cooperation proved to be a viable 'solution' for the territorial issue and, therefore, a viable alternative for the delegations at the Washington Conference. The presence of a number of core values in which the parties agreed as being applicable to Antarctica paved the way for the compromise on territorial sovereignty that made the Treaty possible (Peterson 1988, 67).

Additionally, the publicity of scientific activities as part of the IGY had proved to be an important propagandistic resource and had located Antarctica in the public imagination. Involvement in Antarctic science was considered an indication of great operational capability and a sign of being involved in 'big science' (Peterson 1988, 89). In a broader sense, the signature of the Antarctic Treaty institutionalized the position of scientific research as the only legitimate activity in Antarctica. The IGY and the use of the scientific criteria for participation in the Washington Conference meant scientific credentials were considered increasingly important. At the same time, science allowed the parties to the Treaty to hold significant political influence (Howkins 2008b) as the development of 'substantial' Antarctic research activities remained as a relatively high barrier of admission.

At the institutional level, the continuity of SCAR and its indirect involvement as an advisory body for the consultative parties offered to the scientific community

³⁵⁴ The US Scientific Advisor Committee was integrated by: Dr. Laurence M. Gould, Dr. Francis W. Reichelderfer, Dr. Lloyd V. Berkner, Dr. Merle A. Tuve, Dr. Harry Wexler and Mr. Albert P. Crary. Many of those men had direct or indirect contact with Antarctic exploration. See: Department of State for the Press No. 736, 19 October 1959. Antarctica Documents 1959. Records 1959-1959 - Conference on Antarctica (1959, Washington DC)/ US Delegation - Container #8. International Conferences, Commissions and Expositions: RG 0043. NARA/USA, MD.

an important degree of influence on Antarctic decisions and provided a more apolitical aspect to the regime. At the same time, the institutional setting created by the Antarctic regime gave to Antarctic science the means to articulate and reproduce the conditions over which its epistemic community had developed.

Picture 33: Signature of the Antarctic Treaty, 1 December 1959



Source: RG 0059. NARA-MD, USA

In the end, the signature of the treaty had institutionalized the conditions over which Antarctic science of an international scope could be developed. After little more than 60 years, the dream of the scientists gathered at the 6th International Geographical Congress of London that the governments of the world unite their efforts into the systematic exploration of Antarctica was finally a reality. And thus Antarctica remained a continent for peace and science.

Chapter Six: Conclusions and Final Remarks

In the previous chapters I have analysed the history of Antarctic international politics in the light of different dimensions of analysis. During that reconstruction, I have emphasized several aspects, actors and events that were essential to understand the type of phenomena involved in the process that led to the inception of an international regime for Antarctica, which granted peaceful use and international cooperation in scientific research for the whole continent.

In this section, I will bring back many of those elements in a more conceptual light, with the purpose of offering a more theoretical approach and drawing some conclusions based on the history of Antarctica during the first half of the 20th Century. In doing so I will adopt the conceptual distinction offered in the first chapter, with the distinction between the political, economic, ideational and scientific dimensions, and the identification of the presence of an epistemic community.

6.1 The Analysis of the Different Dimensions

6.1.1 The Political Dimension

As presented in chapter two, at the end of the 19th Century, Antarctica was outside international politics. The remoteness of the region, the risks involved in any exploration effort, and the availability of other more fruitful territories to expand colonial extensions, limited any political interest in the region. Apart from international prestige there was little, if any, political interest in administering or controlling a region that was still mostly unknown, but also unpromising.

The long distances that separated any civilized and populated region from the southern continent—even for the southern hemisphere countries—was an important material limitation for any effective sanction of a political order. That explains why those who dared to cross the frozen seas and explore the frigid Antarctic lands enjoyed a high degree of political initiative, even when that also resulted from a

relative lack of enthusiasm and support from their respective governments.³⁵⁵ Much of the impulsiveness of political actions and the common international character of many of the expeditions of that time can be better understood under that relative lack of interest. With the sole exception of the continuous operation of the Laurie Island observatory by Argentina, all other political commitment had fluctuated. Bruce's observatory cession to the Argentines, the need of Argentine assistance for Otto Nordenksjöld's expedition, Australian and New Zealand support for Shackleton's *Nimrod* expedition and the Chilean rescue of Shackleton's *Endurance* expedition, are some examples of the complex political relations that were established between the European initiative and the southern hemisphere countries' support.

Only with the development of whaling and the economic interests attached to it, did the interest for the administration and exercise of authority in the Antarctic region rise within the British Empire. However, the unilateral character of the political decisions combined with the lack of material capabilities to make effective any claim to an authoritative role, determined that the establishment of a political order was extremely fragile and subject to contestation. In the absence of an internationally accepted institutional order and normative principles, the British intended to establish their authority under what Howkins (2008b) so skilfully categorized as 'environmental authority'; they established a state-sponsored continuous scientific programme—the Discovery Investigations—aiming not to develop science for its own sake, but to sustain and reproduce the same order on which it was based, the British administration of whaling licenses in the Antarctic regions. In line with the values that had been attached to the early exploration of the continent, the idea of the common good of humanity, the benefits accrued from scientific endeavour and the prospects for international action were ideas commonly defended as the core of the institutional order.

Such established political order, however fragile, managed to reproduce itself for more than a decade, having to confront only occasional and relatively powerless

³⁵⁵ An example of this is the common search for support from other countries, particularly from the southern hemisphere, and the lack of concern from the European powers.

challenges. Nonetheless, apolitical factors eroded its basis, that is, the regime of whaling licenses issued for the establishment of shore stations. The material and institutional capabilities were inadequate to deal with the introduction of pelagic whaling on a grand scale and the subsequent competition for the discovery of whaling fields in the Antarctic Ocean. The promotion of the universal value of sustainable development of the resource gathered some support from other parties that agreed to a general regulation framework for whaling, but failed to constitute a basis on which an administrative order could be established—especially in the face of such important economic interests involved.

Events at the international level also worked against the establishment of an administrative order. With power relations shifting rapidly, there were less forceful arguments to compel the alleged authority of the former hegemonic power. Especially when the latter seemed ill-equipped to enforce any political decision. The attempt of other parties to exercise a similar authoritative role in Antarctic also failed to obtain international recognition, and eventually international relations entered into a phase of strong competence at the Antarctic level. Australia had to confront the challenge posed by the French claim to Adélie Land and the projection of Norwegian interest in the region; New Zealand confronted the dilemma imposed by the US activity in the Ross Sea; the United Kingdom was continuously threatened by Argentine and Chilean interests and the shadow of US projection into the Antarctic Peninsula; and Norway had eventually been disputed by Nazi Germany.

The political diplomatic interchanges of those conflicts debated the international principles to be applied, as well as which common values should be pursued. The only common ground that all the parties agreed on unequivocally were the ideas of common good, scientific value and international cooperation, even when the latter was increasingly devalued. However, challenges to administrative authority could be circumvented through the idea of ‘hospitality’, (Derrida 2000) graciously

‘inviting’ the challenging party to conduct activities in the region to which the different actors claimed an authoritative role.³⁵⁶

With global international balance shifting rapidly, there was a balance-of-power struggle that could be defined as strictly Antarctic, with many different actors looking to establish a stronger position not necessarily for a predefined political objective, but to forestall or counterweight the actions of others. The inclusion of the Soviet Union among the Antarctic actors did nothing to ease the anxieties about the political instability of the region. First characterized as mainly scientific, the competition increased its military facet and drove Argentina, Chile and the United Kingdom to a critical situation. The willingness of the greatest superpower of the time—the US—to settle the political question through an international agreement in 1948 failed to impose the proposed solution, as it implied the involvement of a broader frame of reference than what was perceived of as strictly Antarctic.

It would take the initiative of scientists in forwarding a political principle—a principle that was actually conceived within the political spheres—to make a common ground of agreement possible. The ‘gentlemen’s agreement’ made in the mould of Escudero’s Proposal by the countries participating in the Antarctic programme of the IGY established a potential solution that built on the traditional principles of common good, scientific research and international cooperation. But the intervention of scientists and their institutions in the political realm was something that different governments were unwilling to accept. The political order that rose from the Washington Conference, the Antarctic Treaty, acknowledged a shared group of principles that had been installed since the first scientific exploration expeditions of the end of the 19th Century, even if somewhat redefined: peaceful use in benefit of all humanity; the promotion of scientific investigation; and furtherance of international cooperation. But, at the same time, it also delimited the political realm within the

³⁵⁶ It is interesting to note in this sense, that the relation established by such ‘invitation’ is established as a two-way power relation in which the host and the guest have the potential to resist. By denying the character of the ‘host’ as such, the ‘guest’ is denying the other’s space of sovereignty, their authoritative role over the space that is considered as its domain.

exclusive range of the nation-states, leaving to scientist and scientific institutions the role of defining the technical aspects related to the political objectives.

6.1.2 The Economic Dimension

The economic dimension of Antarctica was mainly defined by the development of whaling since the beginning of the 20th Century. Scientific expeditions served as the departure point of the activity, having informed the initiation of the undertaking and defined the potential for its development. Carl Larsen not only benefited from the information obtained thanks to his personal experience as part of Nordenskjöld expedition, but also from the surveys made during their stay in South Georgia. What is more, he also probably benefited from the prestige derived from his participation in polar exploration when dealing with potential funders of what would be the *Compañía Argentina de Pesca S.A.*

The lack of competition was an opportunity that compensated for the large requirement of capital and the risk of navigation in Antarctic waters. Also, the above-mentioned absence of an established administrative political order offered the possibility of seeking a more convenient arrangement for business development. Finding in Argentina better prospects for development, particularly due to tax exemptions, the business would rapidly have to accept British administration, once the government imposed its conditions on the company. The cost related to the acceptance of a closer administration of the activity had the benefit of also operating as a barrier for new competitors that were joining in numbers.

The administrative authority tried to apply a rational framework for economic exploitation which, even when limiting the surplus of the individual catches, also avoided the rapid depletion of the resource and supported a sustainable development. The problem was that a tension existed between the need for a more rational exploitation of the resource, and the conditions of economic production and transportation, added to the differential prices that whale products had in the market. While whale oil constituted a high-priced product, the economic incentives for the integral use of the animal were minimal, as their extraction, storage and transportation

would require work and infrastructure that could be used for the exploitation of the oil. On the other hand, the limitation in the number of licenses given partly compensated the restrictions imposed on the holders of such licenses by avoiding excessive competition. But the organizational resources of the administrative power were too weak to enforce the conditions imposed and the added value of the regulation of the activity was progressively weakened.

The development of new technologies applied to the industry led to the introduction of pelagic whaling and the stern ramp factory ship, instituting new forms of economic exploitation not subject to local governmental regulation. The increase in efficiency from the use of new techniques added to the lack of tax burden for offshore operations—a condition peculiar to the pelagic whaling industry—determined an uneven competition that further damaged British regulatory capability and produced a greater concentration of capital, as a result of the large requirement of funds that the acquisition of modern infrastructure required. All those developments introduced stress over the resource, but it would be the global economic crisis that led to the restructure of the industry. After such process, new competitors were introduced, Germany and Japan, that challenged Norwegian and British dominance of the whaling capital.

Scientific information was produced by the British *Discovery* expeditions in order to be used for the rational exploitation of the resource, but the interface between science and political regulation resulted in being much more complex than expected. For the Norwegians, a complex link between economic interest, science and political objectives was established and produced the series of scientific expeditions sponsored by the whaling magnate Lars Christensen.

All other economic activities remained hypothetical, with the exception of sealing that was developed to a minor extent, usually as a complementary activity of the whaling companies during the low season. Mineral activities were never undertaken and scientific information, even though incomplete, showed poor prospects for development. Despite have being used as common bait for financial support, scientific data never backed up the prospects of mineral activities, which, nevertheless, remained a possibility due to the incomplete knowledge about the

region. Thus, uncertainty about the economic prospects for mining activities operated as a factor that stimulated the view of Antarctica as a potential field for economic development. The extensive study of the continent during the IGY dismissed many of those uncertainties and hopes by determining the inexistence of any prospect, in the near future, of the development of a profitable mining activity.

6.1.3 The Ideational Dimension

The always present image of Antarctica was the romantic idea of a remote and inaccessible region. Explorers and scientists were fascinated by the idea of the unknown and the possibilities that could open. Scientific notoriety, public fame, adventure and richness were the main motivations behind the undertaking of such a tough and dangerous experience. Through the romanticized account of the Antarctic voyages, the promotion of such an image acquired wide publicity and linked scientific and exploration endeavour with the ideas of leadership, endurance and courage. The figure of the scientific researcher was outshone by that of the explorer, at least in the public imagination—but also in the minds of many of the private benefactors of the expeditions.

The feats of exploration were a constant of the image projected as the public representation of Antarctica. Far from being exhausted after reaching the pole, the hardness sported by Shackleton on his *Endurance* expedition, or the appeal of the flight travels of Byrd and Ellsworth also constituted an important reference of the white continent and its relationship with humanity. However, the evolution of technology and the possibilities it posed for a closer communication with the south polar region diminished the sense of remoteness of such regions, and the idea of the human potential for the control of nature acquired greater prominence. The untamed and unpredictable territory of the beginning of the century was increasingly becoming a much more familiar and governable space. Byrd's Little America was a keystone in the promotion of such an image.

Another image that was linked to the attributed values of courage and endurance was that of polar exploration as an expression of 'manhood'. The

interpretation of Antarctica as an exclusive space for men, would only start to change in the 1930s after Christensen's introduction of women into the Antarctic space.³⁵⁷ And even after that, Antarctica would continue to be perceived as a space to demonstrate virility.

In terms of the way in which the Antarctic space was conceived, it is interesting to note that the blank space in the map was originally approached through a geographical formalist view. With little knowledge about its features, Antarctica was conceived as a region; as a whole to be explored and discovered. The division of the scientific work during the 7th International Geographical Congress of Berlin showed a formal division based on geographical meridians without considering any natural or political principle. After the development of economic interest, the perception of the Antarctic space experienced important changes. The Letters Patent of 1908 conceived the FID as a pie-shaped sector that projected its limits up to 50° of latitude south. The projection of the sector from the pole up to the north was a formal but political definition of the territory that through a longitudinal extension tried to link Antarctica with the national territory. That approach to the Antarctic spatial dimension was followed by many countries but not Norway. The pie-shaped conception of the Antarctic space favoured the coastal work and the development of geographical work. Only after a better knowledge of the continental features was reached did a spatial approach based on natural characteristics start to become more common. Nonetheless, even today the pie-shaped approach based on political interests continues to be dominant.

In terms of the identities, the first contrast was between the scientists and the explorers; differentiation that was advanced by Weyprecht in his criticism about geographical exploration but that would be continuous throughout the time period studied here. Despite both activities being closely nested, there are differences that are relevant and that explain some of the contradictions described in the text. While,

³⁵⁷ Investigations on the Antarctic Peninsula found the remains of a woman dated back to the first decades of the 19th Century. However, as I am analyzing the symbolic dimensions of the gender issue, the found remains do not alter the fact that Antarctica was perceived mainly as an exclusive space for men.

as seen above, geographical exploration is seen to be linked with the predominant values of leadership, endurance and courage; scientific research is usually related to values such as intellectual honesty, analytical capability and systematic work. The explorer needs to advance, the scientist needs to sustain regular and systematic observations. That difference was determined not only by the identity of the respective personalities, but specifically by the material conditions required for their work.

Another important distinction is between naval (or military) men and civilians. Naval men are subject to a strict discipline, a chain of command, a sense of duty and a commitment to the nation and the corps; whereas civilians are not restricted by a strict discipline but by the execution of their functions, flexible relationships and communication, a moral sense determined by personal beliefs and commitment to freely chosen causes and/or groups. Even more acutely, the typical scientist would be subject to no discipline other than the technical requirements determined by his discipline, would be prepared to contest authority in the furtherance of improvement of existent knowledge, would respect hierarchy only on a personal basis and in terms of personal and academic recognition, and would commit himself to the production of knowledge under the requisites acknowledged as necessary by his discipline. The distinction between naval men and civilians was key in Markham's conception of the British NAE, but was also important in many social relations described throughout the text as in the case of the relationship between the scientific personnel and the naval men on the Rymill Antarctic expedition.

In terms of national identity, being mostly formed by crews of international origin, the first expeditions of the 20th Century did not pay much attention to that aspect, besides the flag under which the expedition would fly. As the century advanced, national identities became more important in defining the actions of the actors involved in Antarctic expedition both individually and institutionally. While being Norwegian, Borchgrevink sailed under the British flag; Wilkins claimed in the name of the British Crown the lands over which he flew, despite being financed by

US money.³⁵⁸ With the introduction of national competition to Antarctic exploration and the rivalry that arose from conflictive claims, that identity became more relevant, even if usually overlapping with other identities.

Lastly, the ideology went from the predominant imperialism of the beginning of the century, to the internationalism promoted by the IGY. The imperialist ideology predominant at the beginning of the century interpreted the polar regions as spheres of influence that could be colonized and included within the dominions of each empire. The colonialism resulting from imperialism was not only territorial, but also scientific, political and economic. The prevailing view of non-European (or US) science as inferior was a characteristic that endured well into the century, from Markham's disdain of the quality of observation to be obtained from the Argentine observatory in Staten Island to the underestimation of the works of the Argentines in the 1940s.

In the interwar period, the nationalist ideologies would acquire impulse after the economic crisis and subsequent protectionism. This led to challenging the hegemony of the dominant imperial powers, many of whom exerted an economic imperialism over commodities exporter countries. That nationalist ideology projected an anti-imperialist discourse that extended to relations with the imperialist powers in Antarctica. But while it functioned as a force that hampered international collaboration, it also reduced external dependence and favoured cohesion at a national level.

Finally, the end of the Second World War and the following creation of a new order based on a strong institutionalization of international organizations followed the promotion of an internationalist ideology. Without denying the centrality of nations, the internationalist ideology promoted contacts between nations and collaboration on an aggregate level. The IGY favoured both the organization of national committees and the promotion of coordinated action.

³⁵⁸ And he also laid claims for Australia when assisting the expedition of the US citizen, Lincoln Ellsworth.

6.1.4 The Scientific Dimension

The progress of science encountered many epistemic needs throughout the history I have reconstructed. The demand for synoptic data for the study of geomagnetism and the lack of geographical knowledge of a huge section of the world, portrayed the first such need, complemented by the study of meteorological phenomenon. The broad reach of both deficits stimulated international cooperation, as the distribution of observation points and the coordination and standardization of data collection were paramount.

The development of whaling brought a very different demand for knowledge, this time based on the requirements of a regulatory authority. The phenomenon continued to be broad in scope, but the authoritative character that justified the demand favoured a national rather than an international approach. The development of oceanographic knowledge related to whales and their environment was vital for the scientific management of the resource. This required a continuous effort that, being connected with an activity that generated state revenues, justified its public financing.

A completely different approach followed the increase in geographical knowledge that stemmed from the exploration of different coastal regions of Antarctica in the search for whaling fields. The production of knowledge acquired the competitive features of both the commercial activity and the geographical survey. The exclusivity in geographical discovery was expressed by the effort of naming the Antarctic features, something that was directed to exerting a sense of possession and thus buttressing the national title to ownership. The same logic was followed by the exploration of the Antarctic hinterland, the difference being that in terms of the economic prospects the interest was directed to the potential presence of minerals of commercial value and not to any existent economic significance. Furthermore, the competitiveness of geographical knowledge was expressed by the scientific/technical 'quality' of the produced outcomes: the maps. To have the most accurate map was not only important for navigation but was also an expression of authority over the

region and offered the possibility of imposing a sense of possession through the establishment of definitive names.

That competition imposed by the development of Antarctic geography was counterbalanced by the subsequent accumulated demand for knowledge related to geophysical phenomenon. While some important questions about geomagnetism were still unresolved, it was the atmospheric phenomenon that captured the most attention. The global scope of geophysical phenomenon played in favour of international cooperation, first through the second IPY—which did not succeed in promoting Antarctic research—and afterwards through the IGY.

As we have seen, the distribution of knowledge was asymmetrical, despite the fact that much of the scientific data was available through the established channels of scientific communication. The authority in scientific issues remained in the hands of the central powers of the ‘civilized world’ who had the skills and resources to produce and widely distribute the locally produced knowledge. The production of autonomous knowledge by third world countries operated as a serious challenge to authority both in its symbolic and its material dimensions. In the end, the IGY’s establishment of the world data centres offered a solution that, although imperfect, facilitated more equal access to scientific information.³⁵⁹

Regarding the institutionalization of science, there were variations in the scope and specificity attained. Originally there were local institutions, some of them acquired a national but unofficial character which was then articulated internationally through discipline oriented scientific events, such as the geographical congresses. A more permanent institutional setting was the International Association of Academies, that gathered a group of scientific institutions without any consideration to nationality. The First World War interrupted all international efforts and left a balance of political division within the scientific community.

Starting with SPRI, scientific oriented institutions with a specific polar orientation slowly aroused under a national basis, coinciding with the period of

³⁵⁹ In this regard see the work of: Dean et al. 2014.

national competition in Antarctica. Simultaneously, the International Association of Academies was being replaced by the IRC, which was organized under the principle of national members, but reflecting the political divide generated by the Great War. Eventually, the IRC favoured the formation of scientific unions, based on specific disciplines or fields of enquiry, and demanding a new form of institutional setting, ensuing the formation of the ICSU.

The constitution of a second IPY instituted international cooperation on a grand scale but was hampered by the economic and political circumstances that curtailed its scope. The materialization of a third IPY took some time to gather momentum, but eventually, with the assistance of the already existent structure of the ICSU and the scientific unions and the recently created UNESCO, it acquired global scope and was converted to the IGY, constituting a truly global international scientific effort—with the notable exception of the People's Republic of China. Having centred its attention on Antarctica and outer space, the complex political situation in Antarctica motivated the institutionalization of a specific organization, the *Special Committee for Antarctic Research* which, since then, has been the international scientific organization of reference on Antarctic issues—reconvened as the *Scientific Committee of Antarctic Research*.

6.2 The Epistemic Communities Perspective

In terms of epistemic communities, the beginning of the scientific exploration of Antarctica followed the successful establishing of the issue as an imperative task to be developed by the advanced nations of the world. A subgroup of prominent scientists gathered forces through the available national and international scientific institutions and personal contacts. The IPY provided a direct frame of reference for international cooperation while the International Geographical Congresses offered a field for building a consensus, forming a common agenda and providing a wider base for political influence.

As for identity, the subgroup that formed the original consensus for Antarctic exploration see themselves as part of the 'civilized' nations of the world and as men

of science. There was nothing specifically 'Antarctic' nor polar amongst these men, besides some personal contact with former explorers, and their interests were mainly scientific. Therefore, their agenda combined theoretical and descriptive research, being directed to geographical exploration, magnetic research, auroral and meteorological observation and the determination of natural features of the unknown continent.

The possibility of developing their agenda depended to a great extent on their individual contacts within the influential circles of societies and the prestige of the scientific associations to which they belonged. But the eventual attainment of the desired outcome depended to a great extent on a learning process in which the different individuals and associations involved learned to frame the issue in political terms. That was determined by the absence of a political opportunity for the implementation of the group's agenda due to budgetary limitations, the availability of more attractive destinations for the required resources and the lack of political interest in Antarctica.

As exploration of the southern regions advanced, a community of Antarctic explorers and scientists with a shared experience started to develop. Personal contacts between fellow polar explorers and scientists were intense and collaboration remained a common feature. While explorers tended to promote adventure and scientists research, both profiles were usually combined in the same individual—even if each one gave different emphasis to each element—united by the common experience of the Antarctic (or the polar). The greater appeal of adventure located the emphasis on deeds of exploration that turned the agenda into pole hunting.

The profile of organizers that did not take part in the expeditions (such as Neumayer and Markham) gave place to the almost absolute presence of the organizer/explorer that committed his own life to the enterprise. Personal aspects of the individual—charisma, prestige, courage, experience—became capital to be exploited in the search for funding, while scientific associations remained the gatekeepers and guarantors of the scientific character of the state-endorsed expeditions. While contribution from scientific institutions became more symbolic than substantive, obtaining the sponsorship or endorsement of a scientific prominent

institution became a prerequisite for a successful proposal. Political opportunity remained low and eventually disappeared once the Great War devastated Europe.

But the development of economic interest in Antarctica and the evolution of Antarctic exploration allowed the emergence of groups gathered on a national basis. That was strengthened by the creation of specific polar institutions such as the SPRI, the Polar Committee, the Norwegian Polar Institute, the Argentine Antarctic Institute, etc. Prominent figures also operated as the centripetal forces of a national polar epistemic community, with notable examples such as Mawson in Australia or Christensen in Norway. National identity provided the frame of reference for those communities, and the development of their agendas usually followed less scientific objectives, with territorial considerations overlapping their theoretical and empirical objectives. Coastal exploration and climatological and oceanographic research, most related to whaling activities, were common features of their programmes of research. Geological surveys were also relevant when the availability of minerals of commercial value was suspected.

The influence varied greatly between countries, periods and groups. The influence of economic interests was most felt in those cases and periods in which whaling activities established a close link with Antarctic science—such as with Christensen in Norway or the *Discovery* expeditions in Britain. Strategic considerations had been uppermost in countries in which participation of military forces had been predominant, such as Argentina, Chile and the United States, or where had had some relevant role, such as the United Kingdom. But as the Second World War resulted in the active involvement of scientists and scientific institutions within the decision-making structures of the state, the epistemic community started to exert some direct influence as part of those structures.

The international institutional setting evolved from the IRC that condensed participation under national identity to the more apolitical and international design of the ICSU that assigned a central role to scientific unions. The 2nd International Polar Year added an agenda to polar research of atmospheric phenomenon. But the national character of the agenda of Antarctic research of the different national Antarctic

epistemic communities seems to have avoided the extension of such agenda and international setting to the southern regions.

Political opportunity also favoured a national over an international approach, as power competition at a global and regional-Antarctic level ensued that national interest prevailed over international cooperation in the procurement of governmental support. The international participation by the character of 'observer' is a symbol of such prevalence.

Only when an international Antarctic epistemic community was established did the reality of international Antarctic cooperation on a grand scale (the original proposal of the 6th International Geographical Congress) became possible. This was allowed by the introduction of Antarctica to the principal items on the agenda of the international scientific community due to epistemic reasons. The accumulated need for data on geophysical phenomenon located Antarctica in the realm of the scientific priority regions; now that technology had made viable the conducting of experiments and the establishment of observational posts that just a decade before would be impossible.

The constitution of the international Antarctic epistemic community arose from the articulation of the national, international and Antarctic identities that was made possible through the implementation of the IGY Antarctic programme. Satisfying the requisites of national identity, participation in the IGY was on a national basis. International cooperation was promoted following scientific considerations, something that strengthened identification with the collective of scientists and the international community. The design of a programme of continental scale gave an Antarctic dimension to those working in the same region. The interference of political considerations in the design of the programme determined that bases of different countries were established in close proximity, despite the fact that a greater dispersion would result in improved results. But at the same time determined that contact with parties of other nationalities in the proximity was more frequent than contact with parties of the same nationality located at great distance.

The influence of the international Antarctic epistemic community was felt at the national as well as at the international level. The role played by the representatives

in the preparations of the event allowed them to influence both the national as well as the international process. The existent channels of communications between the national Antarctic epistemic communities and the bureaucratic circles facilitated the translation of political and scientific objectives and accommodation between national and international interests. The technical expertise gave to those responsible for the design of the international agenda and the implementation of the national programme an authoritative role in defining the respective policies.

The political context of Antarctic impasse, Cold War distension and the development of an institutionalized international order, presented a vital opportunity for the development of the general international scientific community agenda, and most particularly, that of the emerging international Antarctic epistemic community. By imposing its agreement of freezing territorial claims and the promotion of scientific research and international cooperation, the epistemic community stepped into Antarctic politics in pursuit of its own scientific objectives. The establishment of SCAR gave to that collective an institutional organization that facilitated communication between the different groups within the community, offered a shared Antarctic and scientific identity, and resulted in an instrument for negotiating their common agenda and channelling their demands.

6.3 Final Remarks

The Antarctic Treaty has usually been explained as a result of the logic of power competition installed by the Cold War, or as a direct outcome of the International Geophysical Year. In this sense, perspectives have usually adopted a position between the conception of science as a mere facade for strategic and geopolitical concerns or as the rampant force that emerged from the IGY. Much attention has been drawn to the political aspects of the conflict between Argentina, Chile and the United Kingdom and the superpower struggle between the United States and the Soviet Union, revealing that, in those cases, science had been mostly instrumentalized as a means for their national interests.

However, by tracing the role of science to the very beginning of Antarctic scientific exploration it is possible to identify a long process of structuration of values and ideas that emerged from that community of scientists and explorers and that endured until the Antarctic Treaty crystalized them as an essential normative principle of its institutional order, namely, the ideas of common benefit, international cooperation and scientific research. That is not to say that the international regime established through the Antarctic Treaty was an artefact of the intentional action of the scientific community, but that the participation of scientists and explorers in the history of Antarctica reveals some of the core characteristics that the regime adopted.

The reconstruction of the history of Antarctica since the turn of the century until the Antarctic Treaty shows that scientists and explorers have been permanent protagonists of it. They have not been alone. Whalers, the military and others have also participated in Antarctic events, and they also have had important effects on defining the Antarctic politics. But those are subjects of other works and do not deny the key role of science and scientists.

The Antarctic Treaty and the regime it established was not the only possible outcome of the Antarctic problem and its constitution obeyed a complex dynamic that extended for more than half a century. Thus, to understand the particular design and the effectiveness that the Treaty enjoyed, it is necessary to analyse its determinants through a wider temporal perspective, differentiating the contextual and contingent conditions from more permanent trends. If the Antarctic Treaty successfully established an international order for the white continent that has endured for almost 60 years it is because it efficiently recognized the role of science and the values attached to its practice, at the same time that the exclusivity of political decision was claimed by the nation-state governments, relegating scientists and scientific institutions to their fields of expertise and guaranteeing the conditions through which their practice could be satisfied. Considering that, instead of the fragile agreement based on the delicate political equilibrium established by Article IV of the Antarctic Treaty, the Antarctic regime appears as the crystallization of a complex and extensive sociological process in which science played a key role, and at the same time, accepted the position of the state as the prominent political actor in Antarctica.

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APPENDIX I: Text of the Antarctic Treaty (Signed 1 December 1959)

THE ANTARCTIC TREATY

The Governments of Argentina, Australia, Belgium, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America,

Recognizing that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

Acknowledging the substantial contributions to scientific knowledge resulting from international cooperation in scientific investigation in Antarctica;

Convinced that the establishment of a firm foundation for the continuation and development of such cooperation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind;

Convinced also that a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations;

Have agreed as follows:

ARTICLE I

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, *inter alia*, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.
2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.

ARTICLE II

Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present Treaty.

ARTICLE III

1. In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the Contracting Parties agree that, to the greatest extent feasible and practicable:

- (a) information regarding plans for scientific programs in Antarctica shall be exchanged to permit maximum economy and efficiency of operations;
- (b) scientific personnel shall be exchanged in Antarctica between expeditions and stations;
- (c) scientific observations and results from Antarctica shall be exchanged and made freely available.

2. In implementing this Article, every encouragement shall be given to the establishment of cooperative working relations with those Specialized Agencies of the United Nations and other international organizations having a scientific or technical interest in Antarctica.

ARTICLE IV

1. Nothing contained in the present Treaty shall be interpreted as:

- (a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;
- (b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;
- (c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.

2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or

create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

ARTICLE V

1. Any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited.
2. In the event of the conclusion of international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, to which all of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX are parties, the rules established under such agreements shall apply in Antarctica.

ARTICLE VI

The provisions of the present Treaty shall apply to the area south of 60° South Latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the high seas within that area.

ARTICLE VII

1. In order to promote the objectives and ensure the observance of the provisions of the present Treaty, each Contracting Party whose representatives are entitled to participate in the meetings referred to in Article IX of the Treaty shall have the right to designate observers to carry out any inspection provided for by the present Article. Observers shall be nationals of the Contracting Parties which designate them. The names of observers shall be communicated to every other Contracting Party having the right to designate observers, and like notice shall be given of the termination of their appointment.
2. Each observer designated in accordance with the provisions of paragraph 1 of this Article shall have complete freedom of access at any time to any or all areas of Antarctica.
3. All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica, shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article.

4. Aerial observation may be carried out at any time over any or all areas of Antarctica by any of the Contracting Parties having the right to designate observers.

5. Each Contracting Party shall, at the time when the present Treaty enters into force for it, inform the other Contracting Parties, and thereafter shall give them notice in advance, of

(a) all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory;

(b) all stations in Antarctica occupied by its nationals; and

(c) any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the present Treaty.

ARTICLE VIII

1. In order to facilitate the exercise of their functions under the present Treaty, and without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica, observers designated under paragraph 1 of Article VII and scientific personnel exchanged under subparagraph 1(b) of Article III of the Treaty, and members of the staffs accompanying any such persons, shall be subject only to the jurisdiction of the Contracting Party of which they are nationals in respect of all acts or omissions occurring while they are in Antarctica for the purpose of exercising their functions.

2. Without prejudice to the provisions of paragraph 1 of this Article, and pending the adoption of measures in pursuance of subparagraph 1(e) of Article IX, the Contracting Parties concerned in any case of dispute with regard to the exercise of jurisdiction in Antarctica shall immediately consult together with a view to reaching a mutually acceptable solution.

ARTICLE IX

1. Representatives of the Contracting Parties named in the preamble to the present Treaty shall meet at the City of Canberra within two months after the date of entry into force of the Treaty, and thereafter at suitable intervals and places, for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty, including measures regarding:

- (a) use of Antarctica for peaceful purposes only;
- (b) facilitation of scientific research in Antarctica;
- (c) facilitation of international scientific cooperation in Antarctica;
- (d) facilitation of the exercise of the rights of inspection provided for in Article VII of the Treaty;
- (e) questions relating to the exercise of jurisdiction in Antarctica;
- (f) preservation and conservation of living resources in Antarctica.

2. Each Contracting Party which has become a party to the present Treaty by accession under Article XIII shall be entitled to appoint representatives to participate in the meetings referred to in paragraph 1 of the present Article, during such time as that Contracting Party demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition.

3. Reports from the observers referred to in Article VII of the present Treaty shall be transmitted to the representatives of the Contracting Parties participating in the meetings referred to in paragraph 1 of the present Article.

4. The measures referred to in paragraph 1 of this Article shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate in the meetings held to consider those measures.

5. Any or all of the rights established in the present Treaty may be exercised as from the date of entry into force of the Treaty whether or not any measures facilitating the exercise of such rights have been proposed, considered or approved as provided in this Article.

ARTICLE X

Each of the Contracting Parties undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.

ARTICLE XI

1. If any dispute arises between two or more of the Contracting Parties concerning the interpretation or application of the present Treaty, those Contracting Parties shall consult among themselves with a view to having the dispute resolved by negotiation, inquiry,

mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice.

2. Any dispute of this character not so resolved shall, with the consent, in each case, of all parties to the dispute, be referred to the International Court of Justice for settlement; but failure to reach agreement on reference to the International Court shall not absolve parties to the dispute from the responsibility of continuing to seek to resolve it by any of the various peaceful means referred to in paragraph 1 of this Article.

ARTICLE XII

1. (a) The present Treaty may be modified or amended at any time by unanimous agreement of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX. Any such modification or amendment shall enter into force when the depositary Government has received notice from all such Contracting Parties that they have ratified it.

(b) Such modification or amendment shall thereafter enter into force as to any other Contracting Party when notice of ratification by it has been received by the depositary Government. Any such Contracting Party from which no notice of ratification is received within a period of two years from the date of entry into force of the modification or amendment in accordance with the provisions of subparagraph 1(a) of this Article shall be deemed to have withdrawn from the present Treaty on the date of the expiration of such period.

2. (a) If after the expiration of thirty years from the date of entry into force of the present Treaty, any of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX so requests by a communication addressed to the depositary Government, a Conference of all the Contracting Parties shall be held as soon as practicable to review the operation of the Treaty.

(b) Any modification or amendment to the present Treaty which is approved at such a Conference by a majority of the Contracting Parties there represented, including a majority of those whose representatives are entitled to participate in the meetings provided for under Article IX, shall be communicated by the depositary Government to all the Contracting Parties immediately after the termination of the Conference and shall enter into force in accordance with the provisions of paragraph 1 of the present Article

(c) If any such modification or amendment has not entered into force in accordance with the provisions of subparagraph 1(a) of this Article within a period of two years after the date of its communication to all the Contracting Parties, any Contracting Party may at any time after the expiration of that period give notice to the depositary Government of its withdrawal from the present Treaty; and such withdrawal shall take effect two years after the receipt of the notice by the depositary Government.

ARTICLE XIII

1. The present Treaty shall be subject to ratification by the signatory States. It shall be open for accession by any State which is a Member of the United Nations, or by any other State which may be invited to accede to the Treaty with the consent of all the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX of the Treaty.
2. Ratification of or accession to the present Treaty shall be effected by each State in accordance with its constitutional processes.
3. Instruments of ratification and instruments of accession shall be deposited with the Government of the United States of America, hereby designated as the depositary Government.
4. The depositary Government shall inform all signatory and acceding States of the date of each deposit of an instrument of ratification or accession, and the date of entry into force of the Treaty and of any modification or amendment thereto.
5. Upon the deposit of instruments of ratification by all the signatory States, the present Treaty shall enter into force for those States and for States which have deposited instruments of accession. Thereafter the Treaty shall enter into force for any acceding State upon the deposit of its instrument of accession.
6. The present Treaty shall be registered by the depositary Government pursuant to Article 102 of the Charter of the United Nations.

ARTICLE XIV

The present Treaty, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to the Governments of the signatory and acceding States.