

# Book of Abstracts

## Scientific Committee on Antarctic Research (SCAR) Joint Workshop of the History EG and the Social Sciences AG

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## Nature conservation in Antarctica during the early Treaty years, 1959–1964

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In 1964 the Antarctic Treaty consultative parties concluded the Agreed Measures for the Conservation of Antarctic Fauna and Flora (AMCAFF). The issues of wildlife conservation and environmental protection had not been prominent within Antarctic diplomacy in the late 1950s and did not hold an important place in the Treaty, yet they became issues for negotiation at the first consultative meeting in Canberra in 1961. How did this come about?

This paper investigates the negotiation of AMCAFF and the general issue of conservation in Antarctica in the early years of the Treaty in three ways.

First, this paper will explore the early interpretations of the articles and concepts within the Treaty, especially in relation to 'living resources'. The Treaty was negotiated within the context of the International Geophysical Year (IGY) which, owing to its focus on the geophysical sciences, had bequeathed something of an inert and lifeless view of the continent. During the negotiations in 1958 and 1959, several Treaty parties insisted that mineral resources be kept out of the deliberations. Later, however, living resources achieved a place in the Treaty owing to the specific fisheries and maritime concerns of Chile. After its ratification and at the first consultative meetings, the text of the Treaty immediately faced competing re-interpretations by the parties to achieve their diplomatic ends; AMCAFF was an early expansion of a short sub-paragraph of Article IX.

Second, this paper will analyse the scientific impulse and context for AMCAFF, looking at the scientists who pursued the cause and the position of the Scientific Committee on Antarctic Research (SCAR). This part of the story begins with the Australian biologist Robert Carrick's paper on nature conservation in December 1959—quickly published in an early number of the *SCAR Bulletin*—which outlined a threefold justification for conservation based on scientific, aesthetic and economic values. Carrick's paper was among the first explicit statements on the specific subject of Antarctic conservation, but it was also a classic scientific statement on conservation for its time. Following this, the paper explores the negotiation required of the scientists within SCAR to effect a politically feasible agreement on conservation and a sustainable and productive relationship with the Treaty parties.

Finally, important issues and themes of the AMCAFF negotiations will be explored. Though all parties quickly agreed that it was appropriate that they should act for nature conservation, several substantive issues had to be resolved. Three interesting disagreements arose over the geographic coverage of the conservation agreement, the

label for that protected area (whether 'International Wildlife Reserve' or 'Special Conservation Area'), and the label for what was being protected ('fauna and flora', 'living resources', or 'wildlife'). As well as being issues of substance, the posturing of several parties in the negotiations was also an important element in shaping the early Treaty regime.

This paper will also consider how the Antarctic experience complements and complicates the historiography of conservation and environmental protection. At the heart of this paper is an emphasis on the ways in which these conservation measures regulated human actions and entrenched political relations as much as protected the environment.

## Evaluating the Success of Scientific Research on Antarctic Expeditions, 1898-1914

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The turn of the twentieth century was an era of intense exploration and scientific activity on and around the Antarctic continent. Although some campaigns specialised in 'pole bagging' or scientific inquiry, most combined exploration and science in a comfortable alliance that produced results in both arenas. The scientific programs of these expeditions have been mostly overlooked during the last century, but in recent years scientific achievements have been the subject of renewed critical analysis. Some recently published monographs and research papers look past the extent of new territory traversed, or the heroic deeds achieved and focus on the scientific programs. These contain subjective statements about the success of those programs, but it is never clear what criteria, if any, are being applied to support those judgements.

This paper focuses on research into the magnetic science program on the *Discovery* expedition (1901-04), which forms a basis for deconstructing the elements of scientific success in the era. The paper commences with a review of the indicators of successful scientific programs, then turns to analyse a set of factors that work together to promote the achievement of scientific objectives. The primary elements contributing to superior outcomes are identified as the human elements of preparation, leadership, scientific practice, skill, knowledge development and finally post-expedition management of data or collections gathered during fieldwork. No single element guarantees scientific success; it is determined by a combination of factors. The effectiveness of the relationship between these factors determines the degree of success or failure of a program. Achieving the potential of a research program relies on elements coming together in a timely and synergistic manner in combination with a measure of luck. The paper closes with the author's assessment of whether the *Discovery* expedition's scientific outcomes matched their potential.

# **Citizens' engagements with science and the shaping of an Antarctic imaginary in Chile**

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## **Introduction**

In this paper we are interested in examining how to account, interpret and research emerging modes of 'Antarctic' cultural identity in Chile, particularly in the southernmost region of Magallanes and its regional capital city Punta Arenas. The general objective is to consider what the possibilities are for stimulating a more open science-society interface in terms of Antarctic science's engagement with broader communities and publics. Our particular aim is to interrogate the concept of citizen science by presenting a case study of a non-formal educational initiative: the Antarctic School Fair and Expedition 2004-2013. In doing so we reflect critically on the question of how can citizens – as subjects constructed by policy processes - participate in critical scientific debates and decisions that affect their futures. In this way we put forward a different conceptualization of citizens' science as a transformative practice whereby citizens are defined as such by the ways through which they enact their political subjectivities by producing and enacting spaces for engagement with science. What this conceptualization entails is a shift in focus within science communication studies from an emphasis on representation and text analysis to examining what people are doing, saying and thinking in relation to science in their everyday lives.

## **Citizen science: at the crossroads of science and citizenship**

One of our starting points is current scholarly work at the interface of science, citizenship and globalization studies. In particular, we ground our work on recent calls which signal that "*the need to clarify our understanding of the complex interfaces and intersections between science and citizenship is now more pertinent than ever*". In deliberating a strategic science in an Antarctic context, much consideration has been given to the Science-Policy interface, but the interface between Antarctic science, governance and citizens has received much less attention, particularly in terms of anticipating future themes and predicaments. Contemporary social theories conceive that subjects are defined as citizens by their daily political actions and engagements rather than their legal status as nationals of a given state. Therefore, we consider citizenship to be a form of cultural identification and something to be constructed, rather than empirically given. In this way, citizenship is better appreciated as a performance of one's political subjectivity through creative and autonomous ways of being and becoming political. Thus, the expediency of the term citizenship lies in its usefulness as a conceptual tool for thinking about emerging modes of cultural identity, values, and a particular sense of belonging in relation to Antarctica, beyond the national interests of particular nation-states.

There are very interesting efforts that could be mentioned around citizen science which in different levels and at different scales call for an involvement by citizens in the practice of science. Most of these provide an understanding of citizen science as “*scientific research conducted, in whole or in part, by amateur or non-professional scientists*”. In this paper we are interested in testing whether we can move beyond these standard –and rather limited in scope- notions of citizen science towards a conception that encourages an engagement of non-scientists in true decision-making about policy issues that have technical or scientific components as well as the engagement of scientists in the democratic and policy process. The really big challenge here lies in not only adequately informing communities about the value of Antarctic science but also in asking ourselves how citizens are to be equipped with the tactical knowledge that will allow them to participate in actions and debates around Antarctic issues that affect their futures.

### **The Antarctic School Fair & Expedition: a case study in citizens’ science?**

The Chilean Antarctic Institute’s (INACH) has a wide array of interests underpinning their science communication and outreach. These are articulated in a vision that aims to foster an interest in Antarctica from Chile’s scientific community; promote Chile’s Antarctic science program; encourage Antarctic content within the Chilean educational system; connect opinion leaders and policy makers with Antarctic science; and instil an early interest in Antarctica within young people and secondary school students. More relevant to our purpose in this paper is the mission to foster the knowledge and significance of Antarctica within regional and national communities and *bring Antarctica closer to Chileans*, contributing to a social construction of an Antarctic identity at a regional and national level. Since 2004, the Chilean Antarctic Institute (INACH) has been convening an annual national youth competition in Antarctic research based in Punta Arenas which coincides with National Antarctic Day. Selected project participants are then awarded a trip to Punta Arenas to present their work to peers and the general public at a three-day open science student conference. The winning projects are awarded a trip to Antarctica to undertake fieldwork. To date, over 100 students have been able to visit King George Island and experience the ‘nuts and bolts’ of scientific fieldwork in Antarctica. For the past two years, the authors have been collaborating in a digital storytelling project in Antarctica, the first of its kind internationally, which opens up a platform for these young science students to have a voice to raise awareness and instil an Antarctic consciousness among young people and their communities.

### **Conclusion**

We think it is useful to expand current debate on the science and policy interface in Antarctica by thinking about novel modes of public engagement with Antarctic science. We do so by rethinking the term ‘citizen science’ and argue that, rather than just participating as amateurs collecting samples for science research; citizens, as bearers of knowledge and agency, must be able to engage in critical scientific and policy debates as well as decisions that affect their futures. It is perspectives like these that will –hopefully- allow us to create and put into practice a more complete picture of what a new ethics for a 21<sup>st</sup>

century Antarctica may actually look like; as we scan the horizon of our future human and cultural engagement with the White Continent.

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## Engaging with the 'Heritage' of Antarctica

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Antarctica is rich in heritage- the material remnants of past activities of many nations, corporations, groups and individuals. Cultural remains are widespread and varied, ranging from sealing and whaling camps, scientific bases and Heroic Era huts to fuel dumps, message posts and buried food depots. The fate of this heritage is not only shaped by the provisions and expectations of the 1959 Antarctic Treaty and the 1991 Madrid Protocol, but also by the value it holds for both countries and organizations that claim and manage it respectively and their administrative mechanisms. The Historic Sites and Monuments list exists to provide Antarctic Consultative Parties (ATCPs) with the opportunity to claim, define and list their 'heritage' but there is no guarantee of conservation action and unlisted, unused sites could be viewed as 'waste', and removed, allowing the alteration of the archaeological record with impunity. Although submissions to the list are subject to discussion and review, this is undertaken by ATCP representatives and, unlike the World Heritage system; decisions are taken without the advice of a panel of heritage experts. Little guidance is given on how sites should be selected and no proposed sites have ever been rejected. Greater attention needs to be paid to how polar heritage is defined, selected, protected and used by those that interact with it and how this compares with the treatment of heritage in non-Antarctic contexts.

This paper reports the findings of earlier research that examined the actions, attitudes and roles of British legislation, the United Kingdom Antarctic Heritage Trust (UKAHT) and a sample of UK tourism operators on six historic bases in the Antarctic Peninsula region that they protect, conserve and visit. These bases had all been entered on to the Historic Sites and Monuments List by the UK Government. The UKAHT undertakes the conservation and daily running of the sites, one of which had been developed into a living museum of British scientific occupation of the area administered as the British Antarctic Territory.

Only twice has the British Government approached the list independently of any other country to propose sites: in 1994 (4 sites) and in 2009 (2 sites). It is also of interest to note that it was in these two years that the Antarctic Act (1994) and the Draft Antarctic Bill (2009) (now the Antarctic Act 2013), Britain's current Antarctic Legislation came into being. To inform this process, professional surveys were undertaken in 1994 and 2007 on behalf of the British government, the UKAHT and the British Antarctic Survey (BAS), the owners of the bases themselves. All the sites chosen at these times were former British scientific bases. In the 1994 survey, using a system of scores based on current condition, ease of maintenance and heritage value, four sites were chosen for listing, representing each period of British scientific occupation in the area, and two more were earmarked for

demolition and removal as waste. One base, despite scoring 63/100 (the highest scoring sites receiving 65/100) was demolished in 2004. The lowest scoring site, Port Lockroy, received 54/100 but was listed and has since been run as a museum, Post Office and gift shop for tourists. The demolition team was unable to reach Detaille Island, which had been condemned despite not being surveyed in 1994, and so it remained standing until, following increasing tourism interest, it was added to the list in 2009 as a British Historic Site and Monument. This history of listing decisions indicates that the British Government view on what can be defined and protected as 'heritage' within Antarctica, is subject to change, either over time or following interest from key stakeholder groups and is not as straightforward as heritage action elsewhere may indicate. It raises the question of whether 'Antarctic heritage' management can bear the same scrutiny of its use and treatment as heritage management in the wider world, or is Antarctica indeed a true *casus sui generis* when it comes to 'Heritage'?

The UKAHT acts as an agent of the British Government and BAS, and therefore uses their definition of heritage. Amongst their objectives are the goals of assisting with the conservation of the British HSM sites and assisting with the acquisition of artefacts.

Despite, the majority of the sites having the benefit of surveys showing their degradation over a fifteen-year period, survey recommendations for site monitoring and management plans were unfortunately not implemented at several of the sites. At one of the 1994 listed sites, follow up visits did not take place and buildings were left for years with unsecured roofs, shattered windows and damaged structural timbers which caused further damage to the interior contents and artefacts. Whilst the Protocol states that sites cannot be 'damaged, removed or destroyed' once listed, there are no penalties for neglect and it does not lead to de-listing.

There is some cause for concern over how the Trust and BAS treat material remains (which are artefacts in the archaeological sense) both inside and outside the buildings e. The sites each have between 500 and 10,000 artefacts. Exterior artefacts are moved into clusters or sent to landfill. Internal artefacts can be moved to other sites, removing them from their original contexts. No active conservation of artefacts takes place due to operating restrictions, despite the Trust's intentions. The 'acquisition' listed in their objectives, appears to focus more on memorabilia from the 'Heroic Era' rather than objects associated with the sites that they maintain. Fundraising does not explicitly take place for this purpose.

In 2009, the British Antarctic Territory Government formed the Historic Bases Working Group with the UKAHT and BAS, producing a report calling for conservation management plans to be created and reviewed every five years, a recommendation seen in both the earlier survey reports. Why has it seemingly taken fifteen years for these to be actioned by the joint stakeholders? Since 2009, periods of monitoring and conservation have begun at three sites. But it continues to be a long and dangerous wait for actions to secure the preservation of the rest.

This lack of momentum to conserve the sites raises the question of whether 'heritage sites' in Antarctica are selected and used as territorial markers in areas of overlapping territorial claims (and so are not required to be structurally intact); or are being employed as symbolic landscapes to be viewed by tourists, creating possible ambassadors for the narrative they represent.

A sample of advertising materials used by Antarctic tourism operators catering for the British audience was examined using image content and text analysis. This study revealed that 'heritage' sites within the British Antarctic Territory do not feature prominently in the industry's creation of a 'Destination Image' for Antarctica.

A PhD project has developed from this research which will continue to examine the human geography of heritage in the contested sector of Antarctica.

## The Man in the Ice Mask: why Bellingshausen did not discover Antarctica

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Since the end of the Soviet Union both Russian and non-Russian scholars have pioneered important developments in the history and historiography of the Soviet period, including new sources, new interpretations, and historiographical reassessments of Soviet scholarship. However, to date, this process has not addressed the corpus of Soviet work on the Russian Antarctic Expedition (RAE) of 1819–21. This paper aims to outline the broad narrative of Soviet Antarctic historiography and to situate it within its cultural and political context.

Soviet Antarctic historiography can be divided into four periods as follows:

- 1917 – 1939 — continuity with pre-revolutionary treatments of the RAE
- 1939 – 1948 — partial adoption of the 1821 priority claim
- 1949 – c 1970 — development and promulgation of the 1820 priority claim
- c 1970 – 1991 — stasis

This schematic should be set against two others, namely the development of geographical knowledge of Antarctica and the — not unrelated — development of national territorial claims and other national policies towards the continent.

### 1917 – 1939: Restraint

During the first period some pre-revolutionary treatments were re-published and several works by or about foreign Antarctic explorers were published, but there was little original research on the RAE. By and large, following a lead set by Yulii Shokal'skii, president of the Russian Geographical Society, the pre-revolutionary assessment, namely that the RAE had discovered the first land south of the Antarctic Circle *without* thereby discovering the continent, was maintained.

### 1939 – 1948: Confusion

In December 1936 the British Graham Land Expedition reported that, contrary to previous ideas, the coasts on the south side of the Bransfield Strait, which had been sighted by British and American seamen in 1820, were part of the mainland of Antarctica; and that the Alexander I Coast, sighted by the RAE in January 1821, was almost certainly an island. Two years later, in January 1939, the Soviet Ministry of Foreign Affairs responded to the Norwegian territorial claim with a Note which implied, without explanation, that the RAE had sighted the mainland of Antarctica in 1820. However Soviet historians failed to support that sudden new 'line', of which they may very well not have been informed by their

government, adopting instead a variety of positions, the boldest of which merely asserted that the RAE had discovered the Antarctic mainland by sighting Alexander I Island in 1821.

#### 1949 – c 1970: Retaliation

In August 1948 the US State Department proposed to western allies with Antarctic claims that they should form a condominium to hold collective sovereignty over Antarctica, to the permanent exclusion of the USSR. In January 1949 the Central Committee of the CPUSSR directed the Geographical Society to support Soviet rights in Antarctica by highlighting the role played by the RAE in discovering the continent. Basing themselves on a more thorough knowledge of the primary sources than their predecessors, representatives of the Society responded with arguments which were thought to prove that the RAE had sighted the Antarctic mainland on 28 January 1820, two days before the first British sighting. Their arguments were at best inconclusive, and once again the new line was not endorsed by all Soviet scholars. However it rapidly became the received orthodoxy for inexpert commentators such as journalists, educationalists, encyclopaedists and official spokespersons.

#### c 1970 – 1991: Complacency

During the later Soviet period most treatments of the RAE were vague, repetitive and rhetorical, often blending phrases written by different eye-witnesses under different circumstances within a single paragraph. Factual errors were frequent, and there was a marked preference for the argument from authority — the received view was the received view, and that was that. Little more has been achieved, to date, in the post-Soviet period. But the imminent bicentenary of the RAE may inspire a fresh start.

For a fuller treatment of the early Soviet period, see the author's article 'Soviet historiography and the 1938–39 Antarctic mini-crisis', forthcoming in *Polar Record*.

## **From sail to steam, seals to science: the visiting vessels of the sub-Antarctic Prince Edward Islands**

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The human history of South Africa's sub-Antarctic Prince Edward Islands is reflected in the visits made to them by sea-going vessels; from their first discovery in 1663, by the Dutch East Indiaman *Maerseveen*, to the present day with the annual relief visit by the modern Antarctic Supply and Research ship, the *S.A. Agulhas II* in April-May 2013. Over this 250-year period many vessels of many types have visited the islands.

The period 1772 (when the islands were rediscovered by Marion du Fresne in the *Mascarin* and *Marquis de Castries*) to 1873 was one of visits by sailing vessels, initially on voyages of discovery, but subsequently to exploit the island group's populations of fur and elephant seals. In 1873 the H.M.S. *Challenger* briefly visited the island, the first vessel with (auxiliary) steam power to do so, and the first to conduct oceanographic research in surrounding waters and to land scientists ashore. The sealing era continued until as late as 1931, with engines replacing sail in its last few decades. The last sealing visit under sail alone was by the famous whaler, the *Charles W. Morgan*, in 1917.

During World War II naval ships, including a submarine, visited the islands but made no landings. The current era commenced in 1947 with South Africa's annexation of the island group, facilitated by both naval vessels and cargo ships. From 1979 the South African meteorological and research station on Marion Island has been supplied by a series of three purpose-built South African vessels, the *R.S.A.*, the *S.A. Agulhas* and the *S.A. Agulhas II*. A plethora of other vessels has visited the islands since annexation for various purposes, including fishing vessels after Patagonian Toothfish (both legally and illegally), yachts on adventure cruises, naval vessels from France and South Africa undertaking medical evacuations, and passing research and supply vessels of several Antarctic nations.

This 250-year history of visiting vessels is used to illustrate changes in how the Prince Edward Islands have been viewed and used.

## Royalty and Loyalty: Queen Elizabeth Land and British Antarctic Territory

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This paper takes as its starting point the decision by the UK government to name a part of the Antarctic 'Queen Elizabeth Land' (2012) and the role of Ngai Tahu leader, Sir Mark Solomon and Prime Minister, John Key in jointly uncovering the *totara* carving in a formal ceremony at Scott Base in the Ross Dependency (2013). In their different ways, both moments remind us that, in Patricia Seed's terms, there is no shortage of evidence of 'ceremonies of possession' when it comes to the geopolitically contested Antarctic continent. While the British case was arguably a response to continued Argentine contestation (as much as it was recognising Queen Elizabeth's II Diamond Jubilee), the New Zealand example was empowered by an attempt to consolidate genealogical and geographical connections between the metropolitan centre and the periphery, and between the colonial and post-colonial state.

These two examples serve as an entree into an interest in how claimant states such as the UK and New Zealand continue to build and reproduce an attachment to polar territory. I pose a series of questions as part of my interest in this attachment process. How do ceremonies involving naming and transplanting material objects contribute a normative force necessary to promote both attachment but also generative of warning to others who might covet such territory? How does a territorial claimant maintain an attachment to a particular part of Antarctic territory? Do such ceremonies of possession carry with them a risk of failure? And is there a large problem lurking here involving a treaty-based regime's capacity to manage and regulate claimant and non-claimant behaviour in a context of growing anxieties regarding resource exploitation, climate change and icy instabilities, and polar nationalisms.

## Science and politics: The Norwegian-British-Swedish Antarctic Expedition (NBSX)

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This paper will give an account of the scientific and political motives behind the Norwegian-British-Swedish Antarctic Expedition (NBSAE/NBSX) of 1949- 1952 and the role of the Norwegian Polar Institute in that expedition.

The NBSAE/NBSX was the first expedition to Antarctica to involve an international team of scientists and its main objective was to carry out a wide-ranging programme of scientific investigations.

Photographs of mountaintops in Dronning Maud Land taken by the Germans during the Neuschwabenland expedition in 1939 excited Swedish geologist Hans Wilhelmsson Ahlmann. Ahlmann initiated the scientific expedition to Antarctica because he was interested in discovering whether climatic fluctuations, similar to those he had observed in the Arctic, were also occurring in the Antarctic.

Ahlmann had asked the Norwegian government and the newly founded Norwegian Polar Institute (former Norges Svalbard- og Ishavsundersøkelser (NSIU)) for support and funding for an expedition in 1946. But getting funding for an expedition in the years after WWII was not an easy task, and especially not an expedition directed towards the Antarctic, as most of the scientific focus at that time was directed towards the Arctic areas. The Norwegian government was reluctant to fund the entire expedition, and so work began to find other countries to cooperate and collaborate with. The expedition had been planned for three years, with several delays, and was not ready until 1949; by then as a joint expedition between Norway, Sweden and Britain. In November 1949 *Norse/* and its crew left Norway and headed south to the Antarctic and in February 1950 they founded the base "Maudheim" at 71°03'S, 10°55'W in the Norwegian sector, Dronning Maud Land. A large number of journeys and surveys were undertaken during the two years of wintering, and vast amounts of data were obtained. The results of the geological, glaciological, meteorological and topographical surveys undertaken during the expedition gave an improved understanding of the role of the Antarctic ice-sheet on regulating the world's climate and world sea levels.

## **Punta Arenas and Ushuaia: early explorers and the politics of memory in constructing Antarctic gateway cities**

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The explorer, Ernest Shackleton, used the term “Gateway” to refer to the route from the Ross Barrier on to the Beardmore Glacier from which point the South Pole could be reached. It is unclear when the term was first applied to settlements on continents or islands from where ships sailed to reach the Antarctic. In the writings of early explorers, I have not seen this usage of the term. However, nowadays, it is common to speak of ‘gateway cities’. In the southern hemisphere, for example, the reference is usually to Cape Town in South Africa, Christchurch/Lyttelton in New Zealand, Hobart in Australia, Punta Arenas in Chile, Stanley in the Malvinas–Falklands and Ushuaia in Argentina. What is now captured in the term, apart from relative proximity to Antarctica and involvement in gaining access to Antarctic and Southern Ocean resource exploration, is the contemporary role of these sites as infrastructural and logistical support centres for scientific expeditions and tourism destined for Antarctica. The present paper focuses on Punta Arenas and Ushuaia, ports that use the term “gateway” to advertise infrastructures, support facilities and services for both research and tourism; while rhetorically harking back to heroic times past to underline an Antarctic heritage and enrolling that long lost era into present spatial practices.

Traditionally science, but now also tourism, is called upon to manifest geopolitical interest in Antarctica on the part of the nation within whose territory the gateway city exists. Thus, “... even in the transnational space of the Antarctic, there is continued expression of the use of tourism by some national governments as a means to support their Antarctic presence.” The present paper delves into the past to probe how two gateway cities initially gained their role around the turn of the nineteenth century. The approach is largely historical highlighting the discoveries made by early explorers, the narratives they produced, charts they constructed and other traces of their passage that have been retrospectively and selectively appropriated into the geopolitical thinking of Argentina and Chile. Noted also is how heritage traces are enlivened and exploited by the tourist industry in the two cities. In the politics of memory narratives from the past activate symbolic values in a constantly changing “present”.

The paper focuses on the period 1896-1916, with an overview of fifteen expeditions (Table 1 in op. cit. in footnote 1) that plied the turbulent waters of Tierra del Fuego, many on their way to Antarctica. Explorers tell how coal was bunkered, food supplies replenished and ships repaired, while their presence was feted by local elites (some of whose names would

grace future Antarctic maps), and local facilities were used as points of contact to dispatch to or receive communications from sponsors or families back home in Europe. Through the eyes of the early explorers the paper traces the multifaceted growth of the two rough colonial outposts that became hubs in the settlement of Tierra del Fuego, sites via which colonizing spaces could be extended into Antarctica. It is a tale of two cities at “the end of the world” where the “end” simultaneously constituted as a “beginning” with new vistas and visions. Specific conditions and resources helped move the metaphoric endpoint of the earth further south across the Drake Passage into Antarctica, a frontier undergirded by conquest: military and scientific, overlain today by ecology, climate change and tourism.

Argentinean and Chilean gunboats already patrolled Fuégian waters to control agreed-upon boundaries from the late 1800s onward, creating a stabilizing factor that benefited explorers, who in turn also helped fix the “ground-truth” of geographical lines. In their narratives some explorers’ observations are laced with expressions of moral concern about the “Indian question” since stabilization and the extension of international boundaries and entrenchment of gateway facilities was only one side of the coin – the other side constituted eradication of indigenous peoples whose lifestyles and material cultures the same explorers scurried to record before it was too late.

Ushuaia became a strategically important geographic *point fixe* that thus, so far south, stabilized the bi-oceanic principle of the Argentine–Chilean boundary. Beyond that, however, Argentina soon called into question the line’s delineation further along the Beagle Channel, and, as time went on, sought unilaterally to unravel it. This move came to have a bearing on how boundaries were later drawn southwards into Antarctica, and it generated the “Beagle Channel crisis” that in 1977 escalated to the brink of a possible war.

Thus we find that nearness to Antarctica in itself is a necessary but not a sufficient condition for the gateway function. The advantage of proximity is effective only when complex assemblages of power and new technologies are in place. In those early days, trains, steamers and whalers equipped with harpoon guns, new infrastructures for networks of global transportation and communication, cartography, hydrographical maps and capitalist accumulation of economic value were drivers in an early mode of globalization. Economics, politics and technology were mainstay factors in assuring stability for the gateway function. When the Panama Canal opened as a new bi-oceanic transport route in 1914 the Fuégian region declined. After World War II geopolitical rivalry again (now also vis-à-vis great powers) spurred revitalization of the gateways. In the post-war era colonial practices and culture together with science have come to more systematically legitimate modernization in the peripheries as well as Argentinian and Chilean designs on Antarctic spaces. Present day tourist circuits in the two Antarctic gateway cities are harnessed in these processes as new Antarctic imaginaries are projected.

Discovery, naming, mapping, navigational charting and other activities reflected in early explorers’ narratives are still used retrospectively and selectively by Chile and Argentina in rival geopolitical imaginaries. Cultural heritage constructs memory meant to boost tourism,

an “Antarctic circuit” with busts (of de Gerlache in Ushuaia), plaques on old mansions (the Blanchard residence now the Chilean Antarctic Institute), hotels recalling Nordenskjöld, Amundsen, Charcot, de Gerlache, etc. and of course the Shackleton Bar in posh Hotel Jose Nogueira where the modern tourist sips her cocktail while contemplating heroes of the past. The record of early explorers’ worries about the annihilation of aboriginal peoples on the other hand is rather invisible in today’s celebratory commemorations of past events in our own age of globalization when modern entrepreneurs promote the contemporary gateway function. The politics of memory involves a highly selective gaze when past events, narratives of polar exploration and their traces in material cultures are mobilized both in the production of geopolitical imaginaries and in promotion of eco- and polar heritage tourism.

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## Values in the discourse on topical issues in Antarctic politics

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In line with the aims of the SCAR Social Sciences Action Group, this paper addresses values as the linking element in human connections to Antarctica. Values, here, are understood as internalised codes that affect human behaviour and include the moral moment on what is considered good and right. For a collective, shared understanding of valued codes of conduct – norms and standards – not only guide individual and group behaviour, but also crucially shape the social order within the collective. In this way, values function as both positive and negative directives, with the often implicit goal of attaining a particular desirable life and state of the world. Such goals can be markedly different amongst various groups and communities. Taken in this light, the Antarctic Treaty System (ATS) becomes especially interesting for an Antarctic values study. Through the ATS, Antarctic Treaty Consultative Parties (ATCPs), as Antarctica's governmental body, set goals for the continent, and the manner in which those goals are best reached. Yet, the ATS is, itself, a collective of communities – in this case, signatory states. Understanding the grounds and logic of the deliberations behind decisions can shed light on an international institution that has, for more than a half century, managed to allow parties to work together peacefully and purposefully. Such research also can bring to light contemporary worldviews about Antarctica, consequently enhancing predictions about Antarctica's future.

Any study that deals with the often complex and latent processes of political negotiations, such as those inherent in the business of the ATS, requires a sensitive and defensible method. With reference to Hajer (2006), political discourse analysis reveals structures and patterns in the way language is used – in either written or spoken form – and the dynamics within the discussions. Additionally, values play a significant role in what Fairclough and Fairclough (2011) call *practical argumentation*: “practical arguments try to balance a number of variables (situation, goals, possible goals and benefits, but also moral considerations, which may override cost-benefit calculations) to arrive or justify a certain type of action (or solution) as the right one” (2011, pp. 246-247).

Therefore, political discourse analysis is an ideal method for discovering values that may underpin the arguments, rationales, and negotiations that shape this discourse.

Within the ATS context, the Antarctic Treaty Meetings of Experts (ATMEs) seem especially useful as value case studies. ATMEs are a tool ATCPs can deploy when “the need arises to discuss practical problems relating to Antarctic activities” (Recommendation IV-24). ATMEs provide a situation in which experts – representatives of ATCPs and invited Non-

Consultative Parties, ATS experts and observers – come together to debate the best solutions for the issue, or issues, at stake.

This paper discusses the range of values impacting on deliberations during two recent ATMEs: *Management of Ship-borne Tourism in the Antarctic Treaty Area* (2009 in Wellington, NZ), and *Implications of Climate Change for Antarctic Management and Governance* (2010, in Svolvær, Norway). The main sources of data are official and publicly accessible documents from these meetings, such as submitted Information and Working Papers and the final reports by the meeting's chairs. The study's findings outline the structures and patterns in articulated deliberations on associated consequences and responsibilities that finally result in the recommendations made by the ATMEs. While acknowledging differences in emphasis and perspectives among the diverse acting members of the discourse, this paper does not consider individual positions – that would go beyond its scope. Rather, it concentrates on the manifest reasoning and implied tone in the discussions.

The two cases – ship-borne tourism and climate change – have a predominant management focus in common. This was no surprise, considering the setting and purpose of these discourses. ATMEs, in general, are designed to prepare the grounds for decision-making at subsequent Antarctic Treaty Consultative Meetings (ATCMs). Since the ATCPs at ATCMs make decisions pertaining to the management of human activities in Antarctica, the core questions for experts at these ATMEs dealt with how to best manage ship-borne tourism and the implications of climate change in the Antarctic. However, the two examples differ significantly in their relevant perspective. While the discourse on ship-borne tourism management focussed on human impacts on Antarctica, the discourse on climate change implications discussed the ways in which Antarctica affects life; primarily, human life.

Against the background of a series of critical, search-and-rescue incidents in Antarctic waters involving tourist vessels, the debates on the management of ship-borne tourism sought to find a compromise between two, occasionally competing, values: the protection of the environment, and the security of human life. The exercise of greater control seemed to be the key means to fulfil both ends – advantaged by responsibility, conformity and adequate information. However, because of the unique political nature of Antarctic governance and tourism management, and especially the desire for groups (such as states) to maintain autonomous authority, the aspect of control can become a critical issue in itself. In contrast, the discussions on climate change were of a more abstract nature as they mainly dealt with future scenarios, rather than immediate, practicable demands. The discourse analysis revealed a desire to secure existing Antarctic values, such as environmental, scientific and political values. It also showed a disposition to regard the continent as a resource for the production of knowledge. Finally, Antarctic was seen to have a symbolic value; specifically one that allowed it to become an exemplar to the rest of the world for dealing with the challenges of climate change.

In conclusion, it should be noted that both discourses turn on common contemporary phenomena for which Antarctica just seems to be a very unusual case.

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## **Antarctic heritage: Still at Risk?**

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The adoption of the 1991 Environmental Protocol to the Antarctic Treaty System (the Madrid Protocol) by the Antarctic Treaty Consultative Parties (ATCPs) lead to some improvements in the way cultural heritage resources are managed in Antarctica. However, the Protocol does not define 'environment' or 'heritage significance' and in some cases the practice of environmental impact assessment undertaken by ATCP's in Antarctica does not include an assessment of the impact of proposed activities on historic sites or artefacts unless they are already listed Historic Sites. The level of risk faced by unlisted historic sites was also exacerbated by the requirements of Annex 3 of the Madrid Protocol concerning waste removal. While the adoption of ACTM Resolution 5 (2001) provides some interim protection for sites through the adoption of guidelines for the handling of pre-1958 historic remains, issues remain around the identification, assessment of significance and dissemination of information about the location and nature of potentially significant historic items/places. This paper explores the option of a data base of past human activity as a tool for both improving environmental impact assessment in Antarctica and meeting a number of obligations under the Treaty for information reporting and data sharing.

# Application of the Hierarchy Research Method for the Assessment of National Interests in Antarctica

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At present the concept of national interests in Antarctic is not defined in any directive legislative acts of the Ukraine. Pursuant to this, this research is based on the assumption, that the national interests of countries, specifically Antarctic Treaty Consultative Parties (ATCPs), (including the Ukraine) lie in ensuring the universal values associated with Antarctica. These values were systematized by the SCAR Social Science Action Group (SSAG) into the following six categories of multiple values: environmental, societal, economic, scientific, aesthetic, and political (with relevant subcategories in each value). Although the mentioned values are qualitative in nature, their ranking is possible by means of a mathematical approach. This study is devoted to determining the quantitative characteristics of importance to each Antarctic value using the hierarchical research that was effectually applied in politics by Prof. Thomas L. Saaty in the second half of the 20th century. The approach consists of three stages:

1. preparing the matrix with the list of the studied values,
2. filling the matrix elements using expert judgements on the successive pair-wise comparison of the values importance in accordance with ranks from 0 to 9, in compliance with the matrix consistency property (the matrix is consistent if  $a_{ii}=1$  and  $a_{ji}=1/a_{ij}$ ), and
3. calculating the eigenvalues of the prepared matrix, that give, after normalization, the comparative quantitative evaluations of the importance of each value.

In processing Ukrainian national interests evaluation the following normative legal documents were used: State Special-Purpose Research Program in Antarctica for 2011-2020; Decrees of the President of Ukraine; Acts of the Cabinet of Ministers of Ukraine; and Working and Information Papers of Ukraine presented at the annual Antarctic Treaty Consultative Meetings starting from 2000. The following quantitative characteristics of national interests were obtained following in the SSAG order: environmental – 10.5%; societal – 6.4%; economic – 15.2%; scientific – 42.7%; aesthetic – 2.6%; political – 18.1%.

The results obtained serve as an analytical basis for political decision-making by executive authorities on the Ukraine's' activities in Antarctica in the near-term and beyond, and also for substantiating the Ukrainian political position in the appropriate bodies of the Antarctic Treaty.

The proposed method can be used to analyse the national interests of other ATCPs. Obtained quantitative characteristics of the national interests of ATCPs, in the order determined by the SCAR Social Science Action Group, can be systematized by analogy

with the classification of stars by their spectral composition (as used in astronomy). Then the total spending of each ATCP for Antarctic activity can serve as an overall index of the importance of Antarctica for each Party (by analogy with stellar brightness). The proposed new quantitative classification of the national interests of ATCPs has great importance for the realization of SCAR's mission "*to provide scientifically-based advice the Antarctic Treaty System and other policy makers*", informing the general public about the expediency of human activity in Antarctica.

## Antarctica is under pressure – challenges for polar science

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“Challenges to the Future Conservation of the Antarctic” is the title of a paper Steven Chown from Monash University and colleagues published nearly a year ago in the journal *Science*(1). They warned that “global environmental change and the growing interest in the region’s resources” (2) increases the stress on the Antarctic Treaty System. “Interactions between resource use and climate change are especially significant threats”, warns Professor Chown (3). Challenges to the future conservation of Antarctica are challenges to polar science itself, because Antarctica is under pressure from global climate change and global lifestyle change.

New studies like the 2013 update of the Antarctic Climate Change and Environmental (ACCE) Report (4) show that global climate change will affect parts of the Antarctic, especially the Antarctic Peninsula and Central West Antarctica (5) more severely than the rest of the world. This is confirmed by a study by Bromwich et al.: “Our reconstructed Byrd temperature record reveals one of the most rapidly warming places on the planet since the 1950s, and its spatial footprint indicates that similar change has probably occurred over a broad area of West Antarctica.” (6) Bromwich and his colleagues show a marked increase of 2,4 Grad Celsius in average annual temperature since 1958 – that is three times faster than the average temperature rise around the globe and nearly twice as high as previous research has suggested. This stresses the nature environment, changes it. At the same time the human footprint is growing. Two brief examples follow.

The human use of the Antarctic environment by tourism has increased rapidly – from 6000 visitors in the mid 1990s (7) up to 35.000 expected tourist in the 2012/2013 season (8). More than 40 companies from nearly 15 countries offer cruises with shore leaves (9). In combination with climate change this invasion of tourists increases the potential for the introduction of dangerous germs and microbes, and of non-indigenous species that might become invasive; as well as the risk of pollution. “We really don’t know what additional impact those tourism numbers . . . are having on what is already a very significantly changing environment”, Neil Gilbert, Antarctic New Zealand’s environment manager is quoted as saying in “The Salt Lake Tribune” earlier this year (10).

However it is not only retirees that are watching penguins and whales from the deck of the ship. There has been,–more importantly, a change in the pattern of tourism. More and more visitors are conquering areas that had not been previously entered by humans. Adventure tourism and extreme sportsmen (and their sponsors!) have discovered Antarctica: These activities leave deeper traces on the continent as they include more

land-based components and risk increasing the demand for permanent facilities for tourism.

The human footprint grows through lifestyle change even far away from the Antarctic. The debate around a healthy diet and ecologically aware behaviour increased the demand for fish and seafood. Since normal fishing quotas cannot satisfy this demand, aquaculture is getting more and more popular. Right now aquaculture “is the fastest growing food sector”, says the report “World in Transition” of the Scientific Advisory Board for Global Change of the German Federal Government (11). Several ecological and social problems are associated with this development; one is an increased demand for Antarctic krill (*Euphausia superba*). In the 1990s the average catch of krill was 100,000 tons. Recently catches have grown: 211,000 tons of krill were harvested during the season 2009/2010, 180,000 tons were captured in 2010/2011 (12). 43 % of the catches are used for aquaculture (13). In the light of new research results the demand for Antarctic krill will probably continue to grow. Krill contains a series of biochemical compounds such as omega-3-oils or carotenoids which are popular diet supplements in western countries (14).

But krill is already facing climate pressure. Around the Antarctic Peninsula, the Scotia Sea and the Bellingshausen Sea, sea ice has retreated. These changes correspond with decreases in the krill population in the Scotia Sea - perhaps by as much as 38 to 81 % from the mid 1970s to the present (15). But “Antarctic krill is the dominant prey of nearly all vertebrates in this region, including Adélie and chinstrap penguins” (16), whales, seals, sea birds as well as most Antarctic fish. Most of these species depend on krill and can't switch prey easily. The Marine Stewardship Council (which was created as a result of discussions around the need for more sustainable fisheries) certified “Aker Biomarine Antarktic Krill” as “sustainable” on 15th of June 2010 (17).

Both brief examples show that the change in Antarctica challenges polar science. Karin Lochte, Director of the AWI (Bremerhaven) emphasized at the Polar Meeting in Hamburg earlier this year. “Our research field is no longer just a description of the natural process that shapes the Polar Regions; it has become a social challenge for the global society.”(18). To cope with the challenges, to provide policy-makers and the public more rapidly and more readily with information –polar science itself has to change! Surely we need to collect more data for better understanding and for model development. Surely we need more intelligent technologies which allow us to discover and to watch the Antarctic remotely year round. But obviously the threats to Antarctica ask first for more collaboration – between different science disciplines, between the nations, between scientist and public and last but not least between scientist and policy-makers – and the more sustainable lifestyles we develop in our countries the better we protect Antarctica.

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## **Preparing the Act: Waste Control, Malaysian**

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The control of waste around the world is vital for safeguarding the Antarctic environment. This is because as more and more waste is being generated worldwide, the heat produced by this waste will add to global warming heating up the Polar Regions. The warming up of this Polar Region will cause the melting of ice and this will create more disaster for the world.

Malaysia is firmly of the opinion that Antarctica must be used exclusively for peaceful purposes. It must forever be preserved as a global park and remain as a common heritage for mankind. Therefore, Malaysia deposited her instrument of accession to the Antarctic Treaty (1959), and this came into force in October 2011. This paper aims to highlight the historical development of Malaysia's concern with conserving Antarctica from the past, in the present and into the future. This paper also looks into the Malaysia's concerns about waste management activities done in the Antarctic. As a result of these concerns Malaysia is developing an Antarctic Act, as a legal instrument to assist Malaysians in showing their commitment to preserving and conserving Antarctica.

Malaysia's initial action on her interest in the Antarctic came in May 1983 when the then Prime Minister of Malaysia, Tun Dr Mahathir Mohamad communicated Malaysia's intention for the Antarctic Continent to be a 'common heritage of mankind'. The concerns of Tun Mahathir have led to Malaysia involving in scientific research activities in Antarctica. In the year 2002, the Malaysian government allocated about five million Malaysian Ringgit under the Eight Malaysia Plan for the Malaysian Antarctica Research Programme (MARP). Malaysia was also invited to observe the Antarctic Treaty Consultative Parties (ATCP) meetings in 2002. These actions have kept Malaysia's interest in the continent alive until today. Since 2002 many more events have taken place and Malaysia was confirmed as a full member of the Scientific Committee on Antarctic Research (SCAR) in 2008.

Today Malaysia is developing a proposed Antarctic Act that is designed to follow the Antarctic Treaty system and guidelines as prescribed by the Madrid Protocol (1991). Malaysian laws on conservation of the environment are also taken into consideration in the Act. Waste and waste disposal are discussed critically during the development of the Act. It is hoped that the proposed Malaysian Antarctic Act will be another legal instrument that adds to the various rules and regulations from other countries on waste disposal and waste control for Antarctica.

There are many ministries in Malaysia that have jurisdiction in dealing with environmental issues. For the success of drafting the law on Antarctica for Malaysia, the Ministry of Science, Technology and Innovation (MOSTI), holds the responsibility for the successful drafting of the Antarctic Act for Malaysia. Drafting of the Act started in 2011 and is still progressing.

There are many areas of law directly involved in the drafting of the Antarctic Act, including areas of public and private laws, civil and also criminal law. Issues of administrative law are another important aspect of the draft. Many legal instruments will later have to be amended to assist in the implementation of the new Act.

There is also the possibility of creating other legal instruments after the passing of the Act. Waste and waste disposal are discussed critically during the drafting of the Act. There are many types of waste under Malaysian law and each has its legal instrument. As it is now, the draft follows the relevant Annex of the Madrid Protocol 1991.

Solid waste disposal in Malaysia is under the jurisdiction of the local government. A definition of waste is given by the Environmental Quality Act 1974 (EQA). Solid waste is transported through private agencies to landfills or transit stations.

There is a different system of waste management in Antarctica (following the Madrid Protocol 1991) and waste management in Malaysia (following the national and local laws). Many lessons can be learnt from the two systems on waste disposal in Malaysia. A comprehensive study on the strength and weaknesses of both systems will assist and strengthen the Malaysia Antarctic Act.

There is still a lot of scientific research that need to be done in Antarctica. Malaysia has the potential to contribute to this noble scientific research. In addition, more social science research, in terms of rules and regulations to address pollution control by Malaysian visitors and researchers in Antarctica, should also be established and carried out.

In conclusion, human activities around and in the Antarctica have undeniable impacts. It is hoped that the good practices of waste control laid down by the Malaysian Antarctic Act will contribute to enhancing protection and conservation efforts in Antarctica in a broader legislative and regulatory framework.

## Seal liver & onion for dinner with a semolina pudding — food and its significance in Antarctic history

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One hundred and one years ago, 18 young men sat down to mark the birthdays of two of the group. Their dinner was a typical celebratory British meal of Edwardian times — devilled almonds, vegetable soup, sardines on toast and roast leg of mutton. Dessert was trifle, strawberries, jellies and crystallised fruits. A single dish — penguins on horseback — hinted at the men's unusual location. The men were part of Douglas Mawson's Australasian Antarctic Expedition of 1911–14, and they had been in Antarctica for four months.

Food, water, clothing, shelter and warmth are basic human needs. Food plays a prime role everywhere, in celebrations, in maintaining harmony and in preserving traditions, but its role seems particularly crucial in Antarctica. Before the digital era, isolated groups of men with little or no privacy shared cramped spaces there in trying circumstances, utterly cut off from friends and family. In weather that was (and still is) almost consistently inimical to human existence, communal and festive meals offered one of life's few dependable social pleasures, and furnished a vital social bond. The birthday of a member of the party was the most common reason for celebrations, but other occasions included midwinter (the year's most significant day), a King's birthday or a Queen's coronation.

Two recently published Antarctic diaries confirm the immense value of shared food on polar expeditions. Geologist Frank Stillwell wrote his diary, published in the centenary year of its writing as *Still no Mawson*, during Mawson's expedition to map and explore the coast and inland ice west of the Ross Sea. The expedition established two separate bases; in 1912; Stillwell was at its main base at Commonwealth Bay (142°E, 66°S).

Writer and adventurer John Béchervaise wrote his diary, published in 2011 as *Unique and unspoilt*, as officer in charge of a small Australian base in 1953 on sub-Antarctic Heard Island, an ice-covered volcano at 54°S in the Southern Ocean.

The two diaries are very different — Stillwell's is that of an intensely private and introspective man, while Béchervaise documented his life assiduously, and publicly, from the age of 16. But both bear witness to the pleasure of familiar dishes, and of the cultural history and practices we carry with us when we travel.

In the Antarctic regions of the early and mid-20th century, the outside world completely vanished from view. Two food regimes prevailed on British and Australian expeditions, depending on whether men were in a hut or in the field. On the inland ice, away from

abundant supplies, men died of scurvy or were poisoned by toxic doses of vitamin A after eating the emaciated sledge dogs. Starving, they dreamed and fantasised about food. 'Nearly every night now we dream of eating and food', wrote Edward Wilson on a sledging journey in December 1902. To fuel him for the unutterably heavy work of sledge-hauling, lunch the following day was a piece of dried seal liver with a biscuit and 8 lumps of sugar, followed by a chapter of Darwin.

By contrast, meals in a base hut or on board ship could be lavish. Everything was available, from bottled gooseberries and redcurrants to tinned collops and vintage port. To help counter the deprivations of life in an Antarctic hut, Mawson's supplies included asparagus and jugged hare.

The men's minimal cooking skills did not preclude ambitious meals. Often, the act of cooking provided an opportunity for time away from the leader's watchful eye. Frank Stillwell rarely recorded his irritation with his companions, but occasionally he could not help it. In mid-September 1912, after Mawson had taken his turn as night watchman, he spent most of the following day in his bunk, as was customary after that duty. Stillwell recorded the relief other men in camp felt. Of late Mawson had not had much to do, he wrote, and had interfered in things, particularly the cooking, 'which he should leave alone', wrote Stillwell.

Visitors on sub-Antarctic islands used Macquarie cabbage (*Stilbocarpa polaris*) and Kerguelen cabbage (*Pringlea antiscorbutica*) as green vegetables. Further south, Antarctic wildlife provided food for men and dogs as well as furnishing objects for scientific study. Seals, penguins, albatrosses, sheathbills, petrels and other seabirds provided fresh meat or eggs. Seal liver was a standard ingredient, both for Frank Stillwell and the other men at Commonwealth Bay, and four decades later on Heard Island.

Eggs were seasonally abundant. In one spell of springtime egg-collecting at Commonwealth Bay, three men gathered two and a half thousand penguin eggs from the vicinity of the hut in three weeks. One afternoon Stillwell collected almost two hundred eggs by himself. 'Eggs are *the* thing at present', he wrote. 'I was cooking today and we used 18 for lunch, about 11 for dinner ... It is luxurious and we are making the most of them'.

In the 1950s at Atlas Cove on Heard Island a few hundred eggs were also a standard day's harvest. Expeditioners there collected 180 penguin eggs from a Rockhopper rookery for the kitchen one November day, and 350 eggs on another occasion. Unlike the Commonwealth Bay expedition, by the time of the Heard Island expeditions the men had a dedicated cook. His meals were a subject of great interest then, as now, not only to the men eating them but to readers at home in Australia. Penguin eggs make wonderful omelettes and are the finest eggs for making cakes, said its cook in an article on Heard Island's food in the popular magazine *Australasian Post*. 'You get me the penguin eggs and we'll open a cake shop and make a fortune'. He had equally firm opinions about how to treat penguin meat, with its 'hard to explain, faintly fishy flavour'. Soak it in salt water for

four to six hours, the magazine advised its 1950s readers, then fry it, and finally bake it with tomatoes for an hour and a half.

Though we can no longer eat Antarctic wildlife, the food people make and eat there continues to have a special significance, and to intrigue us.

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## **South-North Visions: de-centered perspectives on trans-polar historical scholarship**

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Upon first glance it is difficult to see what scholarship on the Arctic has to offer historians with a focus on South America and Antarctica. Although Brazil has recently expressed its desire to obtain observer status within the Arctic Council, none of the South American countries with political and research interests in the southern continent have had a significant history of involvement in the Arctic. On closer inspection, however, the history of South American interest in Antarctica reveals a number of interesting connections to the far north. Argentina's Hernan Pujato, for example, travelled to Alaska to prepare for his Antarctic expeditions in the first half of the 1950s, and the government of Chile at a similar time consulted with Norwegian polar experts with Arctic backgrounds in an attempt to promote its Antarctic sovereignty.

Much existing trans-polar scholarship replicates privileged economic and geopolitical positions in which certain countries can afford to be active in both polar regions. , This paper seeks to offer a number of "de-centered" perspectives on trans-polar historical scholarship, with some emphasis on the South American experience. It asks what such an approach might have to offer countries that have traditionally been associated with one pole or the other. While taking into account the traditional power dynamics of polar research, this paper asks what – if anything – can be learned from de-centering scholarly perspectives in this field. Trans-polar scholarship might look quite different if conducted from Chile or Iceland than it does from Britain, the United States, or Russia.

## **The *Belgique* of Gerlache in the Social Imagination of Punta Arenas, 1897-1899**

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The expedition of Adrian de Gerlache and his ship the *Belgique* to the South Pole between 1897 and 1899 was a social and scientific event such as had never before been seen in Punta Arenas.

The principal newspaper of this southern Chilean city: '*The Magallanes*', allows us to determine the relevance of the polar voyage of this ship and to determine what was known and thought about the South Pole and the problems that those who accompanied Gerlache on the *Belgique* would have to contend with.

It is possible to conclude from these newspaper reports that Gerlache's voyage was of great importance and impact for the political, administrative and military authorities of the Territory of Magallanes, who were interested from the beginning in the "polar voyagers" - who wished them all success when they departed and who received them with great joy and satisfaction on their return after their long months of absence. In fact some of the residents extended invitations to them to "take tea" and to "dine on the local lamb".

This polar expedition was the first one to be received with "the city bedecked with flags" when it arrived in the first days of December of 1897 and the first one to have an "expedition agent" in Punta Arenas such as M. Lorenzo de Braey who was in charge of the supplies for the expedition and who received and sent the correspondence of the members of the expedition. It was also the first ship that remained at anchor for more than two weeks preparing for the trip and whose officers and scientists stayed at the *Hotel France*, and who, together with the crew, visited the streets, the pier and the Plaza de Armas of the city. A similar situation occurred once the "voyagers" of the *Belgique* returned and despite the fact that many of the scientists returned on their own to their places of origin, the ship remained at anchor in the harbour of Punta Arenas for more than three months before leaving en route to Europe.

The fact that it was both the first international scientific expedition and that it was the first to have wintered in the Antarctic gave it a special attractiveness and caused an interesting debate about why Chile should not do the same as it was located in an exceptionally advantageous geographic position. Where the principal South American city in the direction of the Antarctic, Punta Arenas, was located, had been considered by Gerlache as the obligatory stopping and logistical point where final preparations could be carried out

and the participants in the expedition could adequately rest and recuperate both before proceeding to the South Pole and after returning from it.

Both the geographical position and the services offered by Punta Arenas and the Territory of Magallanes were seen as a positive means of projection for other polar expeditions. In this way Chile and the Magellanic society would have to evaluate what would be the best way they could contribute to the solution of the scientific enigmas of the Antarctic.

When finally the *Belgique* together with Lieutenant Gerlache sailed on May 25, 1899, *El Magallanes* laconically closed its reporting saying: "We say goodbye to the valiant explorers of the Antarctic seas".

Once the Belgian ship had left the Straits and had set its final course to Antwerp, for *El Magallanes* there remained the feeling that they had done their duty and that they had been exceptional hosts, nevertheless, the long term analysis made it quite clear how everything involving Antarctic expeditions and science should be handled.

## Conclusions

1. Gerlache took up the call of the 6th International Geographic Congress in London in order to be able increase knowledge about the South Pole and Antarctica.
2. Although it failed to sail from Antwerp in 1896, the next year it was able to sail towards the South.
3. The navigation route followed of the *Belgique* along the coasts of America involved stops in Rio de Janeiro and Montevideo before reaching the port from which it would sail towards the South Pole.
4. The decision to use Punta Arenas as the port of departure and the port of return to the Antarctic and the South Pole had been planned for with great anticipation.
5. The demonstrations of happiness and enthusiasm that the explorers received on their passage through Punta Arenas were no less than those that were given in Rio de Janeiro and Montevideo.
6. At the moment that the *Belgique* sailed from Punta Arenas, its commander Adrien Gerlache had as his final objective to overwinter in the Antarctic and to get as close to the South Pole as possible, if not to reach it.
7. From the middle of December of 1897 until the end of March of 1899 little or nothing was known about the fate of the *Belgique*. This was a time when there was conflicting and inauspicious information.
8. The return of the *Belgique* to Punta Arenas was warmly celebrated because of the return of the intrepid explorers of the southern ice. Paradoxically, the receptivity of the officers and crew of the *Belgique* was extremely limited and they were basically silent during their second stay. The losses of Emile Danco, the Belgian magnetic observer and photographer of the expedition, who died on 5 June 1898, due to a heart complaint and the Norwegian seaman August Wincke who died on 22 January, 1899 due to an accident, could have been interpreted as the reasons for the conduct previously mentioned.

9. For *El Magallanes* the experience left by Gerlache and the *Belgique* in Punta Arenas is unforgettable. It allowed them to make direct contact with a group of European explorers and scientists who went to and returned from the Antarctic, to know their aspirations and fears, including the deaths of some of their companions. But it was equally balanced by the importance for Punta Arenas and Chile in particular, of the closeness of the Antarctic and the importance of Polar information.

Translation: Hamish I. Stewart Stokes, UPLA, Chile.

## **The science of zoning: The Science-Policy Interface of Marine Protected Areas in the Antarctic**

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Human activities in the Antarctic region, such as scientific programmes, fisheries and tourism, have increased substantially over the last two decades, and might attract interest from other economic sectors due to climate change. In response, a variety of zoning policies (i.e. sites, protected areas, specially managed areas) have been established, initially at local spatial scales, for the conservation of the Antarctic environment. More recently, we are witnessing pleas for up-scaling zoning policies to cover larger expanses (e.g. MPAs, regional seas). Achieving these larger scale zones proves to be challenging due to the various interests involved. An important and little-studied feature of establishing these zoning policies is the information processing by different coalitions of actors, such as states, industries, scientists, and environmental NGOs.

This paper aims to improve our understanding of the establishment of Antarctic zoning policies based on an innovative theoretical framework that combines recent insights into the maintenance of boundaries between the domains of science and policy, the multi-actor governance networks and the changing role of information in environmental policy making. Empirically, this paper will draw on the establishment of Antarctic Marine Protected Areas by different coalitions of state and non-state actors in the Antarctic region to better understand the Science-Policy interactions surrounding these policies. The paper will close with a range of lessons for making these interactions more effective in the establishment of larger scale zoning systems in the Antarctic.

## **Cooking at the Chilean Antarctic Base O'Higgins, 1948- 1958**

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This paper analyses the social and educational backgrounds, and professional experiences of cooks who wintered at the Chilean Antarctic Base O'Higgins between its inauguration in 1948 and 1955.

According to the documents held at the Chilean Military Archives, Santiago, most of them were born in rural areas, were around 35 years old, and had little gastronomic experience before joining the Army. They applied to winter at the base both for patriotism and economic reasons.

However to be a cook at Base O'Higgins presented some difficulties: First, most of the canned food went bad because of storage mismanagement; so they run out of fresh food very quickly, and could only get some fresh fish. Second, Chileans did not have Antarctic culinary skills so there was little variety in elaborated food, and monotony was the rule. Third, the coal kitchen was very modest and the cooks had to be really creative to satisfy the demands of the winter crew. The Antarctic peninsula did not offer a great variety of food supplies: Adélie penguins' legs, eggs and livers. Baby seals were the preferred species, but their taste was quite different to those Chileans were used to. Most of the cooks who wintered there learned very soon that the word "food" in the Antarctica had a different and broader meaning than in mainland Chile; this also helped to keep a feeling of "home far away from home" at the base.

A common day began quite early at the base: he had to bake bread and prepare breakfast for the crew; help with the "water faena" that is, to pick up ice blocks and melt them in order to have some warm water for the shower, then prepare a big lunch and dinner, and help in many other chores around the base. Despite the fact that their monthly evaluations were short, one can understand that their role was fundamental in keeping harmony among the crew, and the base commanders were fully aware of it.

## **The role of the social sciences and humanities in Antarctic climate change research**

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Social scientists and humanities researchers study, explain and forecast human behaviour and decision-making, provide a rich and nuanced understanding of the role of cultural norms and traditions or economic, scientific and political frameworks with respect to human engagement with the environment.

In this presentation, I will explore the multiple dimensions of the study of human engagement with the Antarctic and will emphasise the need for an integrated approach to examining global environmental change in an Antarctic context. Increasingly, we recognise that in order to understand complex phenomena such as global change, we must also apprehend the role humans play in the global system. This growing awareness of the importance of human agency is reflected in the formulation of grand science challenges by organisations such as the International Council for Science (ICSU) but has yet to be fully embraced by Antarctic scientists.

In this presentation, I will outline the steps that have been taken elsewhere to integrate the social and natural sciences in a systems approach to studying global change and will explore opportunities for Antarctic humanities scholars and social scientists to make a contribution to Antarctic climate change research.

## **The criteria for proposing and approving Antarctic Historic Sites and Monuments: creation, consolidation and challenges**

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From its establishment, the Antarctic Treaty System (ATS) has included Historic Sites and Monuments (HSMs). The criteria to formally accession these have evolved in response to political manoeuvring within the ATS, Antarctic history and international relations; including the development of World Heritage. This presentation, based on the author's PhD research, Scott's and Shackleton's huts, Antarctic Heritage, and International Relations; reviews the development of criteria for HSMs. This paper proposes that the United Kingdom and New Zealand successfully established criteria that reflected their Antarctic interests and, also, that they have utilised HSMs to enhance cooperation with other nations. In recent years, these criteria have been challenged by Argentina, and questions raised regarding the credibility of the HSM system.

In conclusion, the argument is presented that the current system for HSMs causes internal tension, and aspects of it lack international credibility. The current system fails to delineate between HSMs that could be considered: (a) the Antarctic equivalent of World Heritage status; (b) HSMs that relate to the Continental history of Antarctica, e.g. those HSMs associated with the International Geophysical Year (IGY); (c) national histories associated with Antarctica, e.g. a nation's first building in Antarctica or a related monument; and (d) HSMs of debatable merit.

## **Beriberi at Kerguelen: A case study during the international Antarctic co-operation 1901-1903**

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Before the discovery of vitamins beriberi and scurvy were feared diseases that occurred on ships during long sailing voyages. When the international meteorological and magnetic co-operation took place in Antarctic in 1901-1903, several precautions were made to avoid these diseases by a careful selection of food. However, two Chinese seamen from the supply ship „Tanglin“ died of the so-called ‘sailing ship beriberi’ during the establishment of a base station for the first German South Polar Expedition on Kerguelen, in the South Indian Ocean. . Later on, two scientists out of five station members also fell ill from beriberi and the meteorologist, Josef Enzensperger, died. The two remaining scientists were convinced that their colleague was infected by the sick Chinese, although no direct transmission path was traceable.

In the medical community, these beriberi cases became well-known as a so-called “laboratory experiment” which supported the still prevailing idea of it being an infection disease. This idea was strongly supported by the Nobel prize winner Robert Koch and his student Claus Schilling. The beriberi cases of the exposed group at Kerguelen on the one hand and the beriberi-free control group of the main expedition overwintering aboard the ship “Gauss“ (trapped by pack-ice close to the Antarctic coast) on the other hand served as a perfect laboratory experiment in an extreme and closed environment in which every input of nutrition was known. Hans Gazert, physician of the German South Polar Expedition aboard “Gauss”, analysed the experiment. Due to personal circumstances Gazert was not able to publish his medical results until 1914 and it was only then that the correct explanation of beriberi being due to a vitamin B deficiency (an explanation now widely accepted), was first presented..

Gazert realised that his friend and comrade from the Academic Alpine Club in Munich Enzensperger, a very sporty person and very good mountaineer, was the first meteorologist to overwinter on top of the Zugspitze at about 3000 m from July 1900 until June 1901. During that period he was alone for seven months living on canned food only. Due to these special circumstances, the store of vitamin B in Enzensperger's body was already very low, when he left Zugspitze and travelled to Kerguelen (within one month), leaving no time for his vitamin B stores to be replenished .

The paper reviews different medical experiments and theories that finally culminated in the discovery of vitamins. An analysis of unpublished correspondence between the expedition leader Erich von Drygalski, and Gazert on one side and the medical authorities Koch and Schilling on the other side reveal the importance of the German beriberi data in the first

decade of the 20<sup>th</sup> century and show the specific contribution Gazert made to the development of theory around vitamin deficiency diseases; and how long it took for those theories to achieve general recognition.

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# **The Impact of Social Science Research on Policy in the South African National Antarctic Programme**

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The South African National Antarctic Programme (SANAP) of 2012/2013 only has scientific projects in physical science, oceanographic science, life science, and earth science presently operating in Antarctica. SANAP is a complex, multidimensional, richly nuanced programme, and calls for a comprehensive and integrated approach to policy imperatives. According to the South African Department of Science and Technology, there is a strategic need for participation of a mass of scientists in the programme, both in terms of demographic diversity and scientific disciplines previously not represented or active in Antarctica related research.

The current Scientific Committee on Antarctic Research (SCAR) strategic plan seeks to accomplish its vision and mission by expanding its activities to include the human element (e.g., history, social sciences and the value of Antarctica). Therefore the interdisciplinary research approach announcements from various quarters in Antarctic research are of great interest.

The objective of this study is to address two issues: Firstly, the impact of the stated policy imperatives on expedition teams and their scientific projects between 2008 and 2013 is examined. Secondly, the success of the implementation of the policy between 2008 and 2013, in achieving the goals and objectives of South Africa's 2002 Research and Development Strategy is also examined. To address these two issues, the scientific projects in Antarctica and their trends between 2008 and 2013 are analysed. The study first determines the relationship between the policy's objectives and the composition of the expedition teams, and their scientific projects between 2008 and 2013. Secondly, the study examines the translation of objectives into action, looking at the expedition teams between 2008 and 2013. The identified trends on SANAP teams between 2008 and 2013, show that only natural scientific research projects were conducted in Antarctica. This study contributes to future research on interdisciplinary and integrated approaches to policy implementation in Antarctic research programmes.

## **Malaysia and Antarctica: Past Perspective, Present Involvement And Future Challenges**

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1983 is the year to demonstrate Malaysia's interest in Antarctica, a continent which holds the status of an international space. Through the United Nations General Assembly (UNGA) that year Malaysia and Antigua had drawn attention to the issue of Antarctica's exclusivity to the developing nations and the need for Antarctica to be established as a global heritage for mankind. It was a point where UNCLOS 1982 was just being made available for signature. It introduced the new concept of a common heritage of mankind on equitable exploitation of marine resources and due to that the possibility of a massive explosion of mineral claims and exploitation of the deep seas marine resources on the developed and developing nations. Dr Mahathir Mohamad contended that there are reasons to believe that a similar fate could befall Antarctica. Therefore, measures should be undertaken to guarantee the protection of Antarctica's environment from reckless pillaging of its natural resources. He also voiced the opinion that the Antarctic Treaty System (ATS) should be encouraged to open its doors and allow for developing countries to participate in decision-making regarding the Antarctica. Malaysia's position was that the less developed countries should have access to the resources being exploited and that such territory should be governed under the United Nations. This resulted in the Question of Antarctica being tabled in the United Nations. The Questions of Antarctica was presented annually at the UNGA from 1982 -1992. After a year's break in 1993, the Question of Antarctica has become a triennial endeavour at the UNGA.

Malaysia position on Antarctica in the United Nations has roused the interest of the member countries of the Antarctic Treaty Consultative Parties (ATCP), leading to the invitation for two Malaysian representatives to attend a Workshop on the Antarctic Treaty System in South Beardmore Station, Antarctic in 1985. The late Tan Sri Zain Azraai, Malaysian's permanent representative to the United Nations at that time and Tan Sri Datuk Dr. Omar Abdul Rahman, the Scientific Advisor to the Prime Minister then, were sent to participate in the workshop. Although Tan Sri Datuk Dr Omar had written a proposal to promote Malaysia research in the Antarctic after the workshop, it was only in another decade before it could come to fruition. Every year after that Malaysia continued to be an instrumental to voice the concerns of the developing nations regarding the issue of Antarctica. The issue raised revolves around the exclusivity and unaccountability of the ATCP and need for the ATS to adhere more closely to the UN Charter. A particular source of the query was the creation of the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) in 1988 that was deemed to be an attempt to ensure exclusive mineral development rights by the ATCPs.

However Malaysia's attention on the concern changed in around 1990s. Attention is now centred on the issue of environmental protection. The changed was induced by the incident befall The Exxon –Valdez oil spill disaster in the Alaska. The incident illuminated the inherent dangers of exploiting the vast oil and gas (as well as other mineral resources) through shipping and the Malaysian government's fear at the image of the oil spill incident if it ever happens in Malacca Straits. Malaysia's stance changed. Malaysia also expressed its concern that Antarctica's environment is also under threat from unchecked scientific explorations of the continent. Malaysia proposed the establishment of an international research station under the auspices of the United Nations and to set up an environmental impact assessment process in order to minimise the environmental impact due to research activities. The Southern Ocean surrounding the Antarctica is teeming with marine life and has been exploited by fishermen for over a century. Malaysia went on to urge the international community to scrutinise both the substantial harvesting of krill off the Antarctic coast and of the illegal, unreported and unregulated (IUU) fishing. This position is a reflection of Malaysia's commitment towards the protection and conservation of that pristine environment having connections to the rest of the global environment. Perhaps, the adoption of the Madrid Protocol in 1991 by the ATS has alleviated some of the Malaysian concerns regarding the management of the Antarctica environment and helped to re-affirm Antarctica's status as a heritage to protection of the environment.

It is acknowledged facts by in 1990 onwards that preserving the environmental is actually preserving the pristine environmental condition of Antarctica for the rest of the globe. There are some keys challenges in guarding Antarctic's environment which needed to be identified before unlocking the door to this concept. The international environmental law developed to deal with protection of the environment against climate change, must be understood and digested into the national scene first. This question requires legal reforms at the national state level. Thus, Malaysia in 2011 signed the Antarctica Treaty and the Protocol to the Environmental Protection of the Antarctic Treaty (Madrid Protocol) 1991. It is now ready to make the transformation to adopt the ATS to the Malaysia National Policy on Environmental Protection.

Malaysian scientists research involvement with the cold regions was realises in 1997 when the Cabinet has approved a bilateral scientific agreement with New Zealand to set up the logistics required for Malaysian scientists to initiate research in Antarctica. The Malaysian-Antarctica Research Programme (MARP) was set up under the Academy of Sciences Malaysia (ASM). The programme has accomplished and has thus secured Malaysia a reputation as an Associate Member of the Scientific Committee of Antarctic Research (SCAR). There are now more than fifty researchers involves in areas such as atmospheric science, life science, solar and terrestrial science and remote sensing. Malaysia's remarkable and enthusiastic contribution in Antarctica scientific research has led to the ATCPs to invite Malaysia to attend the 25<sup>th</sup> Antarctic Treaty Consultative Meeting (ATCM) in Warsaw, Poland in 2002. The unprecedented invitation instigated United Kingdom to submit a position paper to the ATCM on how to handle the presence of non-acceding member countries to participate in the ATCM forum meeting. Since then,

Malaysia has been invited to observe the annual ATCM meeting. The visit of the Malaysian Prime Minister to Antarctica in 2002 and followed by the King in 2011 has rekindled the interest of Malaysia on Antarctica; not only from the point of interest of science but also of diplomacy. The scientific collaboration has strengthened Malaysia's interest in promoting Antarctica as a common heritage for all mankind; not focusing on the equitable sharing of mineral resources of Antarctic instead focus on the need to protect its pristine environment for the sake of the global environment.

## The Wide White Stage

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In 1818 Captain James Clark Ross claimed that the Arctic wilderness was ‘beyond the power of art to represent.’ Many similar claims have been made about Antarctica; at 14 million square kilometres, the vastness of the continent has proven to be problematic when it comes to representing the place. Nevertheless, Antarctica has been represented in many ways, including on the theatre stage. Most people never go to Antarctica, so their experience of the ice is mediated by texts, be they diaries, photos, films, novels or, as in this case, plays. As examples of cultural production, plays and their treatment of imagined Antarctic space can provide insights into how attitudes towards the continent have developed and been expressed, and offer a snapshot of the values associated with Antarctica at any given time.

This project involves “examining representations of Antarctica in the theatre and analysing these in terms of space and place in order to chart the development of awareness of the continent and the values associated with the place.” Space and place have formed the basis of several recent studies into theatre where the difference between space and place is defined phenomenologically: ‘space’ is an abstract conceptual framework, not experienced by humans and ‘place’ is concrete, tangible and inhabitable with a human association and history. When applied to Antarctica this framework is particularly interesting because Antarctica has such a recent and well-documented human history. According to these definitions, the diaries of Heroic Era explorers essentially track the turning of Antarctic space into Antarctica, the place. My close reading of eight play texts focuses on the use of mimetic and diegetic space within the theatre, examining the language used, stories told and attitudes present. Such analysis reveals the factors determining the choice of an Antarctic setting, be they ecological, political or metaphorical. These plays can be grouped under four thematic headings, namely ‘In Scott’s Footsteps’, ‘Retelling’, ‘Reimagining’ and ‘Returning’.

### In Scott’s Footsteps

Reinhard Goering’s *Die Südpolexpedition des Kapitän Scott* from Germany (1929) and Douglas Stewart’s *The Fire on The Snow* from Australia (1944) are both examples of early plays in which Antarctica serves simply as a backdrop for heroic stories. They represent the first time Scott’s story was presented on the stage (Goering) and the first time his story was told from a Commonwealth perspective (Stewart). These writers are more interested in exploring themes of sacrifice and self-determination than the landscape itself, and the white polar plateau allows for few distractions from the characters as they grapple with their predetermined destinies.

## Retelling

Plays in the 'Retelling' section include Howard Brenton's *Scott of the Antarctic: Or, What God Didn't See* (1972) and Ted Tally's *Terra Nova* (1977). There is still a focus on the narratives of the Heroic Age, but these texts subvert the ideas of heroes present in the original versions, strongly critiquing the ideas of nationalism and sacrifice and providing alternative versions of both the narratives themselves and the continent on which they took place. Brenton's use of an ice rink on which to stage his performance illustrates how the setting and the performance space can be used to reinforce thematic ideas - the rink, although icy, is very obviously not Antarctica, while the way the characters constantly slip and fall on the ice makes the retelling of Scott's story farcical.

## Reimagining

Later plays see Antarctic stories become divorced from Antarctica the place. As characters create their own version of the place upon the stage and make use of props such as laundry on the washing line to prompt their imaginations, the playwrights highlight the constructed nature of any version of Antarctica. Both Manfred Karge's *Die Eroberung des Südpols* (1985) and Patricia Cornelius' *Do Not Go Gentle...* (2011) use Heroic Era characters to help narrate the lives of characters far away from the place. Exploration stories are used as parables in a range of situations and applied to the lives of those for whom a literal visit to Antarctica is outside the realm of possibility, such as the unemployed or elderly.

## Returning

At the same time, 'Returning' plays such as Mojisola Adebayo's *Moj of the Antarctic* (2008) and Lynda Chanwai-Earle's *Heat* (2011) come back to Antarctica with the idea of the continent a foremost priority, reversing the earlier plays where story came first and place was in the background. Antarctica is the starting point for theatrical works rather than a convenient setting, a change that reflects increased environmental awareness and a new appreciation of Antarctica thanks to media coverage of issues such as global warming. Antarctica's melting ice is often used as a metaphor for change everywhere.

While Antarctica is a setting for each of these plays, every version of Antarctica differs both in terms of staging choices and attitudes towards place. These plays illustrate a progression in how Antarctica has been represented upon the stage, and this progression parallels how we have thought about Antarctica in general. A detailed analysis of each of the plays' use of space and set in order to conjure up a feeling of place will help to reveal more about how Antarctica has been conceptualised, valued, and imagined by each playwright in a wider cultural sense.

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## LEWANDER LECTURE

### Figures in the fog. Ways of telling the Antarctic whaler's history (20th century, Antarctica)

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How have the Antarctica whaling stories been told? Narratives tell stories while they build the world in which these stories take place. Is it possible to think about an Antarctica beyond exploration, isolation, harshness, icy landscapes, and hostile nature? Is it possible to think the unthinkable? Finding new ways of telling stories is not only learning about what is not yet known but also reaching beyond it. That is to say, an Antarctica of exploitation, inhabited lands, industrialized landscapes, human occupation, constant movement, circulation and communication, not only of long journeys but also of extensive stays.

The aim of this paper is to identify the ways in which the whalers' Antarctica stories have been told. We believe that the ways of telling stories contribute to building, creating and producing pictures of Antarctica. In a certain way they structure the limits of what can be considered possible as well as of what is unthinkable or beyond our visual range.

Our analysis is focused on a number of stories that can be considered the entrance doorway for those readers interested in whaling activity in Antarctica. The selected pieces are part of a continuum that spreads from academic literature to general literature while fluctuating between the history of Antarctica and the history of whaling.

In order to explore the whalers' Antarctica stories we consider the geographical space as an analytical axis. This axis allows us to identify the pictures that shape the Antarctica of the whalers as it is known and recognizable today. We use some basic concepts from *Narrative Theory: story and telling*. The first one refers to content -*what is* being told-, and the second one refers to form -*how* it is being told.

For this a two-step methodology was developed. In the first step we identify and record every geographical reference related to whaling activities in the bibliographical sources previously selected and create a database describing these geographical locations based on some categories: isolated/ trajectories, Minor/Major areas, One way/Roundtrip and Land/Maritime areas. In the second step we constructed spatial representations based on the identified locations. For this purpose we represent geographic references as geometric

figures with the intention of identifying recurrences in the ways that whaling activities and the whaling geographical space are frequently represented in Antarctica.

The outcome of this paper poses a fresh start and a new challenge: looking beyond the existing pictures and using new narrative ways. Our objective is not only to come to know the unknown but to imagine different whaling Antarcticas - to imagine the unimaginable.

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## **‘Scott of the Antarctic’ at the Opera: Interpreting Winfried Zillig’s *Das Opfer* (1937)**

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On 12 November 1937, an unusual work premiered at the Hamburg State Opera; only a few performances later, it closed. Entitled *Das Opfer* (“The Sacrifice”), the one-act opera tells the story of Robert F. Scott’s last expedition, focussing particularly on the famous final moments of Lawrence Oates. While the action features only four main characters, a large chorus, dressed for much of the time in penguin costumes, comments on events. The opera was the result of a collaboration between two men, the eccentric expressionist poet Reinhard Goering (1887–1936), who had committed suicide about a year before its premiere, and composer and conductor Winfried Zillig (1905–1963). It was probably the first professional musical response to Scott’s last expedition, and certainly the first operatic performance of the story.

While scholarly examinations of *Das Opfer* exist, they are usually written in German, and almost always form a small section of a broader history of music under the Third Reich. The aim of our research is to provide an in-depth analysis of this opera – historical, textual and musical – that is both relevant to an Antarctic studies readership and accessible to English-speaking readers.

The libretto of *Das Opfer* was based on Goering’s prizewinning play, *Die Südpolexpedition des Kapitän Scott*; adapting it was one of the last things he did before he died. The play had premiered in Berlin in 1930, with influential left-wing Jewish director Leopold Jessner at the helm. A critical success in Germany, it provoked an indignant response in the British press, including protestations from Kathleen Scott and Louis Bernacchi.

*Das Opfer* differs in important ways from its three-act predecessor. Where *Die Südpolexpedition* dealt with the whole expedition and its broader context (including a reasonably sympathetic Amundsen), *Das Opfer* was distilled from its second act, and concentrated on the figure of Oates. And where the play borrows from classical Greek tragedy in its use of a chorus, which provides narrative context and guides audience response, in the opera the chorus members, after the first scene, don penguin costumes and masks, and dance as well as sing. Goering’s own title for his libretto was *Die Pinguine*: the whole story is told from the penguins’ perspective, as an invasion of their land that they hope is doomed by the hostile conditions. Oates’s sacrifice both appals and

impresses them – they interpret it as a triumph of the spirit that signals the end of their reign over the continent.

There is little evidence of how the opera's stage designer, Gerhard Richter, dealt with the challenge of representing the Antarctic plateau within the confines of a theatre. A contemporary review states that he found "a most artistic solution for the unending expanse and desolation of the ice sheet at the South Pole," but does not expand, and photographs from the original programme provide little clue. According to the stage directions given in the published score, the scenes of the polar party were to be played on a bare "ice sheet," which should be transformed in the penguin scenes into something "abstractly structured" with sloping angles and platforms.

The score of *Das Opfer* is equally modernist: Zillig was a former pupil of the renowned Jewish Austro-Hungarian composer Arnold Schoenberg and a promoter of his radical "twelve-tone technique." This is a method of composition in which the twelve pitch classes of the chromatic scale are placed in a specific order to form a "row" or "series," which is then used as a compositional tool. Most composers of twelve-tone music deliberately avoid creating a sense of a key centre or "tonality" in their music; therefore, twelve-tone music is generally considered a branch of "atonality." Atonal music and other modernist trends suffered a rather contradictory fate during the Third Reich. While most atonal music was suppressed in Germany between 1933 and 1945 and Schoenberg – along with a number of other leading Jewish musicians – was driven into exile, Zillig remained in his homeland and employed twelve-tone technique throughout the Nazi period.

Subsequent descriptions of *Das Opfer* and its reception have been remarkably varied. Some commentators assert the play was quickly closed by the National Socialists due to its pro-British content and "degenerate" twelve-tone score. Others argue that this version of events was invented post-war in order to distance Zillig from the Nazi regime. The opera's short run, in this view, was likely a product not of its subversiveness but its banality: a chorus of dancing penguins commenting on an Antarctic tragedy seems a lot closer to the ridiculous than the sublime.

Disinterested evidence from the time is difficult to find, and the libretto and score could lend themselves to either of these views. The libretto promotes qualities such as nationalism, conquest, and sacrifice that align with Nazi ideology. While the opera focuses on a British achievement, this would not automatically have brought Nazi condemnation; until 1938, the party held up British imperialism as a possible model. However, Germany's own interests in the Antarctic were increasing in this period; there were strong economic imperatives for establishing a German territorial claim in Antarctica, to provide a base for its whaling industry, and the Third German Antarctic expedition left the year after the opera opened. It is possible, then, although not a certainty, that an opera celebrating British imperial activity in the Antarctic would have been frowned upon by Party authorities.

A similar ambiguity characterizes the score. Although Zillig later claimed (after the end of the Second World War) that his music had been banned by the Nazi cultural authorities,

many of his post-1933 compositions received their premieres in Nazi Germany. In *Das Opfer*, it seems that Zillig attempted to disguise his use of twelve-tone technique by frequently concealing his row within major or minor chords. While this does soften the work's aural impact by making it sound more "tonal" than many other twelve-tone compositions, *Das Opfer* still attracted criticism following its premiere - Zillig was openly accused in one journal of "heading down the wrong track."

The question of whether *Das Opfer's* short season was due to Nazi displeasure, explicit or implied, or simply a reflection of its unpopularity, may be undecidable. However, the work's contradictory history of interpretation and response is itself worthy of attention. Our research will recontextualize the opera within theatrical and musical representations of Scott's second expedition and the Antarctic more generally, areas in which it has thus far barely been recognized.

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## **Antarctic Plays: Tourism Performance and the Modernity of Nature**

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The aim of this study is to explore the motifs and values driving the human presence in Antarctica, with a specific focus on tourists and tourism. Tourism to and through the White continent necessitates a long journey, is expensive, offers relatively little comfort, exposes tourists to extreme weather and cold, and causes in many cases actual body pain. Despite these facts, the number of Antarctic tourists has drastically increased over the past 20 years, passing from 6,000 in 1993 to almost 40,000 in 2012 (IAATO, 2012). How can this increase be explained? What is the allure of Antarctica for tourists? What are the 'motifs' and 'values' framing tourism in Antarctica?

Building on earlier anthropological works on performance in tourism, we approach the touristic journey in terms of a culturally framed, socially enacted 'theatrical play'. We take up here an epistemology initially developed by Ervin Goffman who suggested we consider everyday life in terms of a performative theatre setting where social actors play roles, follow scripts and through their interactions generate social life as a form of effervescent drama. In Antarctic tourism, as in most other everyday life contexts, there is of course no fixed stage setting, as in a conventional theatre. Instead, travellers move through a series of tourism specific settings - starting at the check-in at the airport, followed by the journey to the harbour, the boarding of a cruise ship, the passage to Antarctica, the encounter with wildlife, weather, and wonderful landscapes, and the journey back home.

The research is underpinned by three interconnected objectives, the first focusing on the phenomenology of the actual journey as it is enacted and experienced by tourists, the second exploring the production of the Antarctic 'play' – its plot, settings, stage security settings and performances – by the tourism industry, and the third investigating the wider policy and legislative frameworks within which tourism activities take place. The research is based both on desk research using data mainly from the websites of the International Association of Antarctic Tour Operators (IAATO) and the Antarctic Treaty System (ATS), and empirical data, primarily direct observations and interviews with expedition staff, cruise ship lecturers and tourists met in the harbour town of Ushuaia in January and February 2013. The epistemological strategy of these interviews was to gain as much detailed information on the daily life and chronology of tourism operations, from the strategy planning of routes to the décor of ships and the actual activities of tourists while on the tour.

The statistical data available indicates that the largest portion of Antarctic tourists are nationals of the USA, Canada, the UK, Australia, Germany, France and also of Japan and, more recently, of China. This quantitative data seems to suggest that Antarctic tourism

initially pertains to a specific 'northern European' culture that also appears in the settler colonies of Northern America and Australia. Most Antarctic tourism is cruise ship based. Ushuaia is the largest port. A typical passage lasts between 10 and 14 days, with 1 or 2 'landings' per day, and costs between EUR 6,000 and EUR 12,000. Cheaper tickets are available at the local last-minute market. Higher operational costs and the global economic crisis have temporarily stalled the rapid recent growth in tourist numbers; yet it is likely that the rate of growth will pick up once again during the next seasons. The 2012-13 season saw the first entire ships freighted by Chinese tour operators. Besides cruise based tourist activities, some tour operators have recently started to promote fly-in-and-cruise, and even fly-in-cruise-fly-out trips using Punta Arenas and King George Island as bases, and reducing the journey time from a current minimum of 10 to 4 days or even less.

The 'Antarctic play' as the overarching frame (or 'plot') of the tourist journey emerges from the sequence of sites and settings (or 'stages') visited. Each new setting leads the tourists through a different 'act' and hence defines an overarching narrative structure 'conducting' the journey in terms of a wider ritual performance. The first 'act' opens with the departure from the tourists' world of home. After flying over the mountain ranges of Patagonia, they reach Ushuaia, frontier-town that fashions itself as the 'end of the world'. Arriving at this 'frontier' constitutes a kind of overture during which the tourist-hero experiences a form of detachment and separation. Once aboard the cruise ships, the then-passengers encounter the rough waters of Drake Passage, often perceived as a kind of mythical 'star gate' or magical wand separating Antarctica from the 'world of civilization', guarded, like in a fairy tale, by the legendary albatross. Many tourists consider the physical suffering that accompanies their traverse of Drake Passage as a necessary sacrifice that conditions admission to the totally other reality represented by Antarctica - a pure, wild and unharmed world that, in a way brings to life the Hobbesian myth of a 'state of nature' or the biblical myth of Eden. The Antarctic tourists then return to their everyday lives at home. The perceived ontological difference between home and Antarctica is only rationalized once they 'look back' at Antarctica, on the other side of Drake Passage. The separation between these 'two worlds' is further reinforced by frequently recorded narratives emphasizing the threats to this unconditioned 'nature' - by humans, or human modernity and history, and, if we want to push it even further, the terror of 'defloration' expressed in some tourists' accounts - feeling like penetrating a virgin space that will have lost its innocence hereafter.

The journey can be understood as a ritual to connect to and renew a series of fundamental social and cosmological values that emanate from the cultures of the tourists, in particular the idea of a primordial divine state of nature separated by a fiercely protected wall. This 'nature' bears a creation myth for modern culture, in the sense of allowing modern subjects to bring to life the mythical Eden or Hobbesian state of nature; as a pre-condition from which modern history and the separation of social life emerge. As in every ritual performance, along with this element of mythical storytelling and reaffirmation of the myth, two other connected elements can be observed. One concerns the sacrificial aspect related both to the destruction of economic wealth (the huge prices paid by tourists for their trip) and the physical suffering that accompanies Drake Passage and that, many

tourists claim, is a necessary part of the experience. The other concerns the 'inner' mental and emotional journey that tourists undergo. Like most forms of tourism, the embodied encounter of alterity [otherness] accompanies a process of transformation and learning - embodied and sensory, by immersing the body in the material realms of the settings; and intellectual and representational especially, as a result of the intensive lecture program on board most ships.

From that point of observation, it may be useful to reconsider the distinction the SCAR Social Science Action Group makes between intrinsic and extrinsic values – because all values are extrinsic, from a scientific point of view. Economic aspects and symbolic and spiritual ones are here intimately intertwined within a powerful modernist narrative of 'nature' as a sacred primordial realm, held by many tourists and also by many scientists. Tourism and as well certain aspects of Antarctic science become here specific ritual performances to 're-connect' to, and reproduce, this realm as a cosmological foundation of modernity in general.

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## **Imagining Inlandsis: Surface and impenetrability**

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The period from 1870 to 1912 saw the earliest explorations of the Greenland and Antarctic ice sheets. Although the expeditions of Adolf Erik Nordenskiöld, Fridtjof Nansen and Robert Peary in Greenland, and those of Robert Falcon Scott, Ernest Shackleton and Douglas Mawson in Antarctica, sought to explore and measure the extent, depth, structure and movement of the Earth's last remaining ice sheets, the rudimentary nature of their scientific tools and of methodologies at their disposal largely prevented the explorers from achieving their goals. Later technological developments would eventually enable scientists to sound the sub-glacial bedrock and internal morphology of ice sheets, as well as to bring back physical samples. The experience of early explorers, however, remained one of two-dimensional impenetrability, where the featureless ice 'plateau' became a backdrop for the projection of human dramas that often had more to do with precedence or survival, than they did with scientific discovery on the subject of ice sheets. Whether in maps, where the only distinguishing feature across the blank white surface of ice sheet regions are lines corresponding to exploration routes, or in a handful of photographs and drawings centred on human subjects (rather than on the vast minimalistic topography in which it is situated), ice sheets remained largely un-frameable abstract spaces, or 'negative geographies', residing outside the scientific and aesthetic canons in force at the time.

## Earliest Australian activity in the Antarctic: Siddins and Taylor

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The literature on the period around the earliest history of the Antarctic is dominated by references to ships from northeast United States and Britain. Two vessels, captains and crew from Australia were sealing in the 1820/21 and 1821/22 seasons, and worked with those already there, particularly British. While both captains were born in Britain, they lived in Australia, and thus are 'Australian'. The story of Richard Siddins from Sydney is well documented, but that of Daniel Taylor from Hobart is very poorly known.

### Richard Siddins and *Lynx*

Siddins (often wrongly spelt as Siddons) had considerable sub-Antarctic experience through sealing on Macquarie Island. He traded normally between Sydney-Hobart and Sydney-Macquarie Island, but not Hobart-Macquarie Island.

In Sydney, Siddins and Bellingshausen, in September 1820, learned of islands around the Antarctic Peninsula and of the presence of abundant seals. Siddins may have been the first to know as Bellingshausen's knowledge is said to have come through diplomatic channels and from '...the captain of an East Indian ship in Port Jackson' – Richard Siddins. The source of Siddins' knowledge is likely to have been crew from ships passing through Rio de Janeiro, the same source as Bellingshausen's more formal information. Siddins decided to go to the South Shetland Islands at the age of 50; he was a careful captain with genuine concern for his crew.

Siddins' working arrangements are unknown but he was at least a part-owner of the *Lynx* of 187 tonnes. On this voyage of 19 months, he was accompanied by several crew members who had worked with him previously.

*Lynx* sailed via Macquarie Island on 3 November 1820 (as did Bellingshausen later), and joined a British fleet in the South Shetland Islands under Captain Robert Fildes of *Cora*. In Blythe Bay on Desolation Island during a wild storm, *Cora* ran aground and a party including Siddins, William Smith and Fildes agreed that it was a total loss. Both *Lynx* and Siddins are commemorated in the vicinity (Cape Siddons and Lynx Point). While in the region, John Davis noted the presence of 'an English brig from Botany Bay (Australia)...'.

At season's end, with ice filling bays, the fleets sailed for winter quarters, many to the Falkland Islands. Siddins and John Davis reached an agreement to work together the next season and for joint use of *Huron's* small sloop *Cecilia*. They departed quarters for the sealing grounds in October 1821 and remained until February 1822, enduring a poor season. A week later Siddins sailed for Port Jackson where he arrived on 19 June 1822.

He returned with 5 000 seal skins (700 from the second season due to the agreement with John Davis) and 40 tonnes of oil, a poor result for the long voyage.

Siddins made one more voyage on *Lynx*, to Macquarie Island (19 February -18 July 1823). He then retired from the sea to become pilot and superintendent of the South Head Lighthouse in Sydney, overlooking the Pacific Ocean.

### **Captain Daniel Taylor and *Caroline***

We know little of the life of Daniel Taylor. He died, aged 72 on 16 April 1858. His death certificate notes he was 'born in England' and thus about 1786. At the time of his death, he is listed as 'auctioneer' and had been since about 1839. The first mention of Taylor is on 24<sup>th</sup> of July 1820, when he obtained a letter of Recommendation as a Settler in Tasmania. He seems never to have married nor had children.

He was associated with Edward Lord, who became the wealthiest man in the colony. Lord and Taylor were significant in local society as Charter members of the Bank of Van Diemen's Land - '...men of opulence and prudence....'. Lord (now subject of an opera) was also the first president of the Van Diemen's Land Agricultural Society, that evolved in 1843 into the Royal Society of Tasmania.

### ***Caroline***

Taylor was sealing in the Antarctic in the 1821/22 season in *Caroline*, departing Hobart on 29 October 1829 and returning 5 months later. *Caroline* (187 tons) was a superior vessel that '... possesses accommodation equal if not superior to a 400 ton ship, having two State Cabins fitted up with Water Closets, beside Side Cabins etc.'

Taylor Point on King George Island is named for him but there appear to be no detailed record of his work in the Antarctic. On return to Hobart, his career is mostly concerned with Macquarie Island sealing. Edward Lord despatched *Caroline* on 17 April 1823, under Taylor for three voyages from Sydney.

The next voyage was *Caroline's* last. On 17 March, a severe gale drove the ship ashore and it was wrecked. Taylor and crew stayed on the island until 30 August when they were picked up. The next visit to Caroline Cove was by Mawson late in 1911. Caroline Cove on Macquarie Island is named for this incident.

There are indications that Taylor was not the perfect businessman. One example: in 1848, Taylor had apparently been declared insolvent but appealed. The Commissioner recorded: '...Assuming the correctness of your present statement, you have acted, to say the least of it, with extreme indiscretion; and throughout the latter part of what I may call your professional life, the same indiscretion appears. You have stated here - and I am not at all disposed to question the accuracy of that statement - that until a few days of your stopping payment you were not aware that you were insolvent. Your pursuits, you stated, had been of another kind - your profession in early life, the sea one, I admit, by no means implying arithmetical skill or excessive caution in the management of business. Still, indiscretion is not guilt.' Taylor left a free man.

## **“Weather still remains boisterous” – Historic weather data in diaries and logbooks 1901–1904**

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Polar history is mostly written by scientists or biographers and often social aspects are not thoroughly considered and presented. There is limited research showing how weather phenomena impacted on the outcome of expeditions. One example is Robert F. Scott's last expedition. My research is focused on weather phenomena and how these influenced expedition members in general. Personal diaries and journals of the era have frequent comments on weather conditions and these are a rich source of data for the central work of this research. I investigate the relationship between ambient weather conditions and elements of the social climate such as interactions between members, physical and mental wellbeing, and variations of group dynamics caused by weather on pioneer Antarctic expeditions. This work explores the social dimensions of early expedition life from two Antarctic expeditions between 1901 and 1904: the British National Antarctic Expedition (*Discovery*), led by Robert F. Scott, and the German Antarctic Expedition, led by Erich von Drygalski (*Gauss*). The personal accounts often include comments on weather conditions which I compared with the recorded temperature and pressure measurements published in the official reports. Preliminary analysis shows sometimes a distinct correlation between the perception of temperature and wind in the diary entries and the actual weather phenomena. Published and unpublished diaries are then examined to get more representative data, revealing the impact of weather on the expedition members and even on the course of the expedition itself.

From the German expedition three diaries are examined: Erich von Drygalski (expedition leader, geographer), Hans Gazert (physician, bacteriological studies and meteorological observations), and Paul Bjørvig (ice pilot). All three diaries are unpublished. Published diaries have been examined for the British expedition from William Lashly (stoker), Edward Wilson (surgeon, zoologist, meteorological observations, artist), and Reginald Skelton (chief engineer and official photographer), as well as one unpublished diary from Harley Ferrar (geologist and ice observations). The biographical background of each of these chosen members is analysed in order to put the text analyses into the best possible context. The comparison is critical as the style of writing, the educational background, the individual's character, and his position within the hierarchical system of the expedition had an influence how people reacted to the weather phenomena. After reading several diaries a method for categorising subjective wind descriptions (1 for calm until 14 for blizzard) that differs from the official Beaufort-Scale, was created. Another task was how to make the German expressions comparable with the English terms. The outcome of this analysis is graphics which visualise how different each individual member described wind. The personal reactions were very different. In some diaries one will not recognise a special

reaction in the day-by-day routine, however, some writers described headaches beyond certain wind speeds or changed their style of writing.

From my studies a behavioural pattern emerges which shows that the weather phenomena alone are not responsible for interactions between expedition members. There are a wide range of components which have been taken into consideration; however, some members were very sensitive in certain weather conditions. Another issue which has to be taken into account is that it may not be possible to recreate accurate weather patterns based on diary entries. However, they provide valuable additional information when official record keeping has shown gaps because of the failure of instruments due to the harsh weather conditions. Further research is intended to examine more diaries to create a sort of “diary-data-base” (documentary data base) utilising the same procedure used for wind and temperature records and applying it to different seasons as well as to diaries created on sledging trips.

The outcome of this research, which started in August 2012 with the support of a COMNAP fellowship (Council of Managers of National Antarctic Programs) and travel grants in 2013 from the Trans-Antarctic-Association and the New Zealand Federation of Graduate Women, will be published in a peer reviewed journal and is in preparation.

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## **The contribution of Interpretation Centres and Tourist Attractions in promoting a greater understanding of Antarctica**

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Every year, Antarctic tourism is under further pressure from the Antarctic Treaty System stakeholders and mass media due to the unparalleled growth and diversification of an industry that takes place in a hazardous environment, with increasing concerns being expressed for potential incidents and accidents of an environmental or human nature. Regulatory and safety policy changes, as well as economic factors, are affecting the participation of Tour Operators in the Antarctic. However, the geography of polar tourism extends beyond the biologically and politically defined Polar Regions, creating opportunities for the areas located in the periphery to develop as destinations of their own within the Polar Tourism industry.

This paper examines the role of Interpretation Centres and Tourist Attractions, dedicated to depicting aspects of Antarctica, and their contribution to the Antarctic Tourism industry's overall message as advocates of Antarctica's global significance. In accordance with the focus of this workshop, this paper aims to identify the human connections to Antarctica generated through the experiences of visitors to purpose-built tourism attractions with an Antarctic theme.

The case study for this paper is The International Antarctic Centre in Christchurch, New Zealand. This tourist attraction is located within the working Antarctic Campus which houses several Antarctic National Programmes. It has been operating effectively for over twenty years despite the Global Financial Crisis and the devastating earthquakes that affected the region in 2010 and 2011, decimating the city's infrastructure and generating a dramatic decline in tourism in the region.

The data were collected from visual resources and advertising material; interviews; visitors' survey; observation of visitor's interaction with the exhibits; the information displayed in the exhibits and shows; documentation from the local tourism development corporation; documentation from the initial planning stage to the centre's development as a commercial enterprise to date.

An understanding of the value of Antarctic tourist attractions in visitors' experience, and the involvement of these in asserting stronger human connections with Antarctica in an artificial environment, may become influential in the development of future alternative activities for Antarctic Tourism.

## **The Antarctic Problem in the 21st Century: Nationalism, Geopolitics, Cultural Futures**

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At the turn of the century, Antarctica has been gradually positioned as a keystone in an unstable world of shifting global geopolitics, environmental crises, and resource scarcities. The “Antarctic Problem” today sees increasingly active contestation around territorial sovereignty and a strengthening of nationalism within a context of changing Antarctic geopolitics. Nationalism is evident in Antarctica in a different form from that familiar elsewhere - it is not predicated upon residents’ rights or expectations, but on a ‘virtual’ nationalism operating remotely from the metropolitan territory of the peoples concerned.

In this paper we delineate the contours of a research project under preparation that examines the extent of the operating practices of nationalism in shaping the geopolitical dynamics currently unfolding in the Antarctic region. In doing so, we examine the ways in which national interests in selected countries permeate a wide range of values and activities in the Antarctic today in order to consider the impact that nationalism – through mechanisms of representation and practice – has on the envisioning and anticipation of Antarctic futures. Understanding the operating practices of nationalism in Antarctica poses a unique set of challenges to the relevance of humanities and social sciences engagement with the Antarctic region. Thus, in examining nationalism as an intervening force in the assembling, mobilising and realising of specific Antarctic futures we offer possible insights into ways of rethinking shared modes of Antarctic governance and international cooperation.

## **Emergence and consolidation of gateway cities to Antarctica**

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This work addresses, in a comparative way, the Antarctic features of three cities that have been named as gateways to Antarctica. What is and what are the characteristics of a gateway to Antarctica? Is it just casually an intermediate-scale of Antarctic paths and flows? Or does it involve a deliberate area that concentrates a wide range of goods and services essential to international Antarctica activity? Considering the cases of Punta Arenas, Ushuaia and Christchurch, it describes the Antarctic elements that constitute every city and by referring to them, common and specific elements are established for each of these cities in the dynamic Antarctic of the Southern Hemisphere.

The results indicate that each of these cities have been shaped as a gateway to Antarctica, according to their particular and internal histories, and at same time in terms of how Antarctica has become an area increasingly visited and occupied by humans. The inclusion of these cities in the dynamic and global flows of capitalism, has allowed for their specialization as connector ports to Antarctica; and has allowed the gestation and assembly of a number of institutions, public policies and businesses capable of providing logistics, goods and services required by international Antarctic activities to take place. As much as there are differences in their specificities, these cities are also subject to management and projection models that fade [sic] between them.

The discussion revolves around how these cities have become more specialized, concentrating multiple Antarctic activities, receiving international recognition of link gates, perhaps competing with each other; but at same time diffusing some of their innovations and practices. Is it possible to identify a general model of how these cities are enabled to become Antarctic nodes?

Through ethnographic and documentary research it is possible to describe and characterize the elements that constitute the cities of Punta Arenas, Ushuaia and Christchurch as gateway cities. It is possible to identify agencies and agents' discourses and practices in conducting their Antarctic activities, allowing for differences and similarities between these cities. This research can help in understanding the current configuration of the southern hemisphere with its active and permanent relationship with Antarctica, thus contributing to the discussion about public policy models and businesses that are established in these cities for scientific, logistics and tourism activities to Antarctica.

## **South American countries in Antarctica: Historical elements in the human occupation of South Shetland**

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This presentation reviews in a general and descriptive mode, various historical aspects of the process of the integration of the human occupation of Antarctica by South American countries into the Antarctic Treaty System (ATS). It synthesizes scattered information regarding the incorporation of these countries into the dynamic Antarctic historical landscape and the theoretical thinking that has installed Antarctica on the political agenda of these countries. It also describes the location, number, demographic and temporary characteristics of the different South American Antarctic settlements; and finally, the dynamics of cooperation and scientific and political exchange between these countries that has developed since the ATS was established.

How are South American countries related to Antarctica? What are the intermediate and Antarctic nodes? How could they optimize the resources and scientific possibilities? What are the logistic and scientific elements of these countries? What does the Antarctic represent to South America?

Six Latin American countries maintain, on their own, a total of 14 permanent settlements that are occupied all year in the South Shetlands and the Antarctic Peninsula - mainly an occupation which involves geographic edges surrounded by the ice, and not within the continent, where the ice is permanent. All of these settlements are within the area that has been called geographically the American or South American Antarctic. Most of the people who occupy these permanent settlements are from the military. The Latin American percentage of population density in Antarctica represents a high percentage in both winter and summer. While the scientific activity of these countries occurs, it is poorly represented in global Antarctic activities like API [sic] or the international Association of Polar Early Career Scientists (APECS), but this does not mean that other forms of global engagement can be discounted. There is potential for the use of a wide range of Antarctic infrastructure for scientific research and artistic and cultural creation, including in winter; opening new areas and ways to practice and contribute to scientific research and the human experience in Antarctica.

## **“Howling emptiness”: aesthetic responses to Antarctica from Captain Cook to Antarctica on a plate**

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Captain James Cook, whose ship the *Resolution* was the first to cross the Antarctic Circle, was famously unimpressed with the Antarctic. In his account of the voyage he wrote: “... these [navigational] difficulties are greatly heightened by the inexpressible [sic] horrid aspect of the Country, a Country doomed by Nature never once to feel the warmth of the Sun's rays, but to lie forever buried under everlasting snow and ice” (Beaglehole 1974). 219 years later the 26 Antarctic Treaty Consultative Parties were sufficiently impressed to mandate that the wilderness and aesthetic values of Antarctica be protected by the Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol), which came into force in 1998. Although 15 years have now elapsed, implementation of protection for aesthetic values has been slow, apparently partly because of higher priorities in the Committee for Environmental Protection and partly because of problems with definitions of key terms. Although there still seems to be the motivation to implement protection of these values there are a number of threats to this. The aim of this paper is to review the Antarctic exploration and travel literature to investigate responses to Antarctic landscapes.

In addition to the quote from Captain Cook above, fourteen other quotes were selected from the Antarctic exploration and travel literature from the period between 1821 and 2003 (the publication date of the last book quoted). Most of this type of literature, i.e. from 1821 until the present, comprises factual accounts by the explorers themselves, mostly describing their efforts and achievements, but occasionally describing and reflecting on the landscapes they discovered.

One of the earliest descriptions of an Antarctic landscape was by Captain John Davis, an American sealer who may have been the first person to land on the Antarctic continent. His description is as laconic as would be expected of an anxious ship's captain in remote uncharted waters: “Out Boat and Sent her on Shore to look for Seal at 11 A.M. the Boat returned but found no signs of Seal ... Stood up a Large Bay, the Land high and covered intirely [sic] with snow ... Cloudy unpleasant weather attended with Snow and a heavy Sea. ... I think this Southern Land to be a Continent” (Stackpole 1955).

In 1831-32 John Biscoe, a sealing captain, made the first circumnavigation of Antarctica. In this diary entry, he records the first sighting of Adelaide Island: “This Island being the farthest known Land to the Southward I have honor'd it with the name of H.M.G. Majesty Queen Adelaide, it has a most imposing and beautiful appearance having one very high Peak running up into the clouds and occasionally appearing both above and below them”

(Jones 1992). This is possibly the first aesthetic response to Antarctica and it is interesting that Biscoe employs the lexicons of both the beautiful and the sublime.

Fifteen years later Captain James Clark Ross, who had already had considerable experience in the Arctic, made a number of important discoveries, not the least of which were the Ross Sea and Ross Ice Shelf. The western boundary of the Ross Sea is formed by a chain of mountains, which Ross also discovered. He described the view as follows: “Early this morning we had a fine view of the magnificent chain of mountains we had seen stretching away to the southward some days before, but then more imperfectly. With a moderate southerly wind we had beautifully clear weather, and we now saw them to great advantage; and as we stood towards them, we gazed with feelings of indescribable delight upon a scene of grandeur and magnificence far beyond anything we had before seen or could have conceived” (Ross 1847).

A little over 150 years later, Alexa Thomson, a young woman employed as a chef in a tourist camp, had a similar reaction, though to a different range of mountains: “There are mountain ranges to the south that send a shiver of awe through me. Every book on Antarctica emphasises that it is the highest, flattest, driest, coldest...I knew it was the land of extremities but it’s one thing to read about it and quite another to bear witness to its blazing frigid perfection (Thomson 2003).

The conclusion reached from reading these and other responses to Antarctic landscapes is that attitudes have not changed over the relatively brief period of human occupation of Antarctica and that its aesthetic values are durable and widely held. These values are fragile, however. Protection has not been widely implemented, there is little support in domestic legislation and, despite the ban on mining imposed by the Madrid Protocol, there are periodic statements by Antarctic Treaty Consultative Parties about initiating resource extraction activities.

In order to contribute to the formulation of definitions like “aesthetic value” a survey was established on the Internet in 2009, which sought international public input on aesthetic preference and semantic usage. The results of a number of aspects of the survey have been published elsewhere, e.g. Summerson & Bishop (2011), Summerson & Bishop (2012) and Summerson (2013). Much more work remains to be done if Antarctica’s unique aesthetic values are to be protected.

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## **A study of the techniques used by the Ross Sea Committee to raise funds for New Zealand's part in the Trans-Antarctic Expedition (1955-58), with selected comparisons of other expeditions**

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Raising the required funds is of fundamental importance to any expedition. The vast amount of money required for Antarctic expeditions has always made fundraising for them particularly challenging. The continent's remoteness and climate, dictate that money is spent on expensive specialised transportation, clothing, food and equipment.

This study has used original material from the New Zealand Archives in Christchurch, to examine how funds were raised for the New Zealand component of the Trans-Antarctic Expedition (TAE) of 1955-58. The decision to divide the £100,000 required by the public appeal, over a number of centres across New Zealand, appears to have been central to the success of the fundraising effort. The archived material describes the complexities of the task and shows how a number of issues (such as a view held by some, that the Government should have funded the entire expedition) were handled. Written correspondence shows how the Ross Sea Committee (RSC) and the different appeal committees interacted on a working basis. The network of committees was keen to adopt ideas which worked well when tried in one area, and the monthly RSC Newsletter allowed committees to keep in touch. The list of donations and gifts in kind shows a cross section of individuals and companies all played their part in the fundraising. A range of ideas were used, from the idea of selling share certificates, to the more traditional ideas of lecture tours, and husky sponsorship.

The study also compares the New Zealand fundraising approach with that used by the British for their part of the TAE expedition. Selected comparisons were also made with earlier and later expeditions, to gain an idea of whether fundraising techniques have changed over the years.

## Russian South Pole expedition in the context of political interests of the Russian Empire and the Soviet Union

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The Russian South Pole expedition (1819-1821), under the command of Fabian Gottlieb von Bellingshausen, was politically significant at the end of the 1940s and in the 1950s in the Soviet Union and in other countries. The United States of America and its allies understood in 1948 (after American *demarché*) that the Soviet Union wanted to validate its right to take part in the resolution of the Antarctic question by reference to the Bellingshausen expedition. The Russian tsar Alexander I, who had given the order to launch the expedition, had done the Soviet Union a great favour. The fact that the expedition took place, as well as the fact that the first pieces of land within the Antarctic Circle were discovered under the Russian flag in January 1821 could not be denied. But that seemed insufficient for the Soviet Union. The ambitious state, inspired with '*cosmopolitizatciya*' propaganda, tried to prove that Bellingshausen had also discovered the Antarctic continent in January 1820, a year earlier than Peter I Island and Alexander I coast were discovered by the expedition.

This paper tries to find out how it was possible to make such a big jump of interpretation in this earlier period, and is there a factual basis for that. To answer the question proposed, we have, in the first place, to return to the history of Antarctic exploration and take into consideration the knowledge and hypotheses about the physical geography of the South Pole region from James Cook to Hjalmar Riiser-Larsen. Analysing the views of different researchers and seafarers concerning the (non-)existence of the Antarctic continent is the only way to provide an answer to such a complicated and contradictory problem. The other important task is to analyse the written heritage of Russian and Soviet investigators about the Bellingshausen expedition and its importance in the discovery of the Antarctic in chronological order from the beginning of the 20th century to the second half of the 1950s. The picture outlined on the basis of the scientific results of Bellingshausen's expedition is full of contradictions and politics, but not of science.

## **Mapping out how different cultures and populations value the Antarctic wilderness – Consortium for Research on the Wilderness Values of Antarctica AntWild**

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Since the ratification of the Antarctic Treaty in 1961, the Antarctic area (the Antarctic continent and the surrounding oceans) has been managed collectively by the countries that have a substantial scientific interest in Antarctica. These so-called 'consultative parties to the Antarctic Treaty' have grown from 12 to 28 in the past decades, and they continue to meet annually to discuss new management issues. The consultative parties have frequently stated that Antarctica should be managed for the benefit of mankind.

In 1991, the consultative parties adopted the Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol), providing more comprehensive legal protection to the Antarctic environment and related values. The Protocol covers the region south of 60° South – a wild, uninhabited and immense area that covers one sixth of the Earth's surface. Among other things, Article 3(1) of the Protocol stipulates the legal protection of Antarctica's wilderness and aesthetic values. The cultural diversity of the stakeholders active in Antarctica and an absence of agreed definitions have posed challenges in implementing the protection of Antarctica's wilderness values that was envisioned through the Protocol.

The Consortium for Research on the Wilderness Values of Antarctica (AntWild) is a partnership of researchers working together to map out how different cultures and populations value the Antarctic wilderness. By articulating common, public, international understandings of valuing Antarctica, we hope to contribute towards a more effective implementation of the spirit and the letter of the Protocol.

The work of AntWild began in 2007 when we started to conduct surveys and interviews with small groups of people in the Netherlands, in California, in the USA and onboard an Antarctic tourist ships. There have been few studies of Antarctic values and we build on these in our continued research agenda. In this presentation, we provide an overview of our project and results to date. We hope to take this opportunity to continue seeking out

new partners to join the Consortium who can help us take this project to more corners of the globe.

## **Antarctic futures: Human engagement with the Antarctic environment**

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The scope and intensity of human activity in the Antarctic region has changed considerably over the past 100 years, resulting in significant modifications to the Antarctic environment and its ecosystems, and to the institutional arrangements governing human activities. Development in human engagement with the Antarctic environment has been accompanied by changes in human values, technologies and ways of thinking. Within this context, 30 international experts worked over a period of 3 years on the book project “Antarctic futures: Human engagement with the Antarctic environment” to take stock of our knowledge of human impacts on and values of the Antarctic environment and to explore possible future scenarios for the region. They asked: What future will business-as-usual bring to the Antarctic environment? Will a business-as-usual future be compatible with the objectives set out under the Antarctic Treaty, especially its Protocol on Environmental Protection? What actions are necessary to bring about alternative futures for the next 50 years? Their conclusions are not pretty. The vast majority of future scenarios concur that existing environmental management practices and the current system of governance are insufficient to meet the obligations set out under the Protocol to protect the Antarctic environment, let alone being able to address the challenges facing a warmer and busier Antarctic in the 21<sup>st</sup> century and beyond. Long-term and large-scale considerations need to permeate throughout all the steps of planning, decision-making, implementation, enforcement, monitoring and compliance. Multiple dimensions and perspectives of human engagement with the Antarctic environment (e.g. time, space, individual and collective values, ecosystems) need to be taken into consideration. Research in the natural and social sciences are both needed to inform environmental management and strategy development. Rigorous science needs to be complemented by an understanding of worldviews, societal needs, and even the religious and spiritual priorities of communities. This will help in the development of well-rounded, feasible and comprehensive policies and procedures and in securing the full commitment of stakeholders.

## **Infested with godless warriors and plagued by natural disaster: Antarctica in Spanish literature, late 1500s to early 1600s**

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A series of texts written in Spanish during the late 1500s and early 1600s depict the perils of life in the “Antarctic Hemisphere”. Rich in detailed descriptions, these works reveal varied representations of Antarctica. Of special interest in this paper are epic poems produced by what was known as the *Academia Antártica* [Antarctic Society], a group of authors who met in Lima, Peru in the late 1500s and early 1600s. This paper examines how poets from the Antarctic Society described Antarctica: its seas and territories, its peoples, and the challenges faced by those who dared to explore it or settle there. Additionally, this paper inquires into the links between the Antarctic features of the new world and the shaping of an American identity. The epic poem *Armas Antárticas* [Great Antarctic Military Feats], written by Juan de Miramontes y Zuázola in 1615, is given special attention, and a possible reference to the motif of the whirlpool at the South Pole is observed.

In addition, a more general observation is made regarding the relationship between representations of Antarctica in literature and scientific discovery, concluding that certain features of the white continent seem to have their own life. Despite scientific advancement, these features continue to mutate and survive, keeping Antarctica, in the popular imagination, a place of mystery and fear.

## **The Papers of the Antarctic Treaty Consultative Meetings – a treasure trove of new information**

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The Antarctic Treaty itself was largely framed during 60 secret meetings between the 12 International Geophysical Year (IGY) Antarctic states and culminated in the Treaty being signed on 1 December 1959. It came into force after all Parties had ratified it on 23 June 1961.

Article IX provided for an initial meeting of the “Contracting Parties” to be held in Canberra two months after the date of entry into force and “.. thereafter at suitable intervals and places”. Article XIV specifies that there will be four official languages – English, French, Russian and Spanish. There is no reference anywhere in the Treaty to making its discussions and conclusions public. No secretariat was established to organise and service the meetings. The depositary government of the United States of America was not obliged to hold the working papers of each meeting but its officials collected copies and deposited them in the National Archives in Washington DC.

### **The Antarctic Treaty Consultative Meeting (ATCM) Reports**

From the start the host government provided the support for the meeting and that included preparing a final report agreed by the majority of delegates present. The reports were circulated to the Antarctic Treaty Consultative Parties (the Parties) and were initially very short, consisting principally of the Recommendations agreed and a brief account of the meeting. There was a brief list of the agenda items, but no indication of who had attended to represent each Party or what papers had been submitted for discussion. In other words it was impossible to understand the way in which conclusions were reached and which countries were contributing most to the development of the Treaty. For the first 25 years only Consultative Party delegations were present and it was not until the late 1980s that Non-Consultative Parties and Observers were allowed to attend.

By VII ATCM in Wellington in 1972 the Parties had agreed to produce a printed report with covers, which now contained the agenda, some brief description of discussion on certain items, the Recommendations, speeches made by the Heads of Delegations, a list of participants and a list of documents, and even a press release. Yet the papers were still considered confidential and were inaccessible to anyone outside the attendees. The Scott Polar Research Institute (SPRI) decided that the reports of the Treaty needed wider circulation and took to reprinting them in the Notes section of the journal *Polar Record*).

They were apparently supplied by the UK Foreign Office, almost certainly by Brian Roberts, and contained material not in the official circulated reports such as a list of all those attending.

When the Antarctic Treaty Secretariat was established in 2004 an early objective was to make all the ATCM Reports available on the web site in all four official languages. In addition those papers for which digital versions were available would also be posted.

### **Making the Antarctic Treaty Papers accessible**

Dr Brian Roberts from the British Foreign Office attended all the early consultative meetings and collected as many of the papers as possible in all languages for himself, which he bequeathed in 1978 to the SPRI library archives. This collection was continued by Peter Clarkson (SCAR) from 1988 onwards. As far as we are aware this is the largest set of Treaty papers in any academic institution anywhere in the world. In addition to the ATCM papers there are also papers from Special Meetings and from Expert Meetings. Opening access to these papers will enable scholarly research into the development of the Treaty as well as ensuring that the Treaty Parties can also easily access all the historical material in preparing papers for future meetings. SPRI agreed to provide the papers for scanning by Cambridge University Library, which was funded by the Treaty Secretariat. The scanned files were subjected to Optical Character Recognition (OCR) processing before being sent to the Secretariat where further checking of the files was conducted before they were posted on the Secretariat web site.

The SPRI papers up to 1985 were principally Working Papers and covered all four languages. From 1985 onwards the coverage is principally in English with the addition of Information Papers from 1994 onwards. In addition there were Background Papers (1989), Reports and Recommendations (1979), Official Documents (1961; 1962; 1964; 1966; 1968; 1970; 1972), Final Reports (1985), Summary of Proceedings (1961), and Preparatory meeting (1970) which are all in English only. These have also been scanned as part of the project.

The remaining missing papers from 1985 onwards will be sought from Russia, France and from Chile. The situation with respect to Information Papers before 1985 is more complex as classification for these early meetings was poor and many papers we would not regard as Information or even Background papers were then classified as Working Papers. Exactly what is missing from the pre-1985 material is the subject of continuing investigation. The papers from the early meetings were apparently printed on a mimeograph printer where the stencil did not give a clear print on many occasions so that reading some of the early papers is a little difficult.

### **Possible research fields**

Whilst the contents of the earliest working papers and ATCM reports leave a great deal to be desired, as the Treaty developed the papers become more informative and useful. There may be useful reports from delegations on particular meetings that could be found in national archives that would help to establish national positions but one previously unused

source of objectives is the formal speeches made by heads of delegations. In the development of major new legal agreements such as CCAMLR, CRAMRA and CCAS the availability of these working and information papers may well show up the diversity of negotiating positions more clearly whilst the role of SCAR in providing environmental management information is now much easier to establish. The list of delegates at each meeting will demonstrate the direct involvement of scientists as advisors whilst the authorship of papers will provide indications of which country were active in developing particular fields of interest to the Parties.

## **New advances of the South American Research Project (Brazil-Argentina-Chile) on Historical Archaeology in Antarctica**

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In this presentation we will discuss some of the activities carried out and some of the results already obtained by the international project "Landscapes in White; Archaeology and Anthropology in Antarctica". We will focus on the creation of an interactive record of archaeological sites powered by Google Earth. We will present a series of old sealing camps recently discovered on the South Shetland Islands, and a manual for the analysis and conservation of the archaeological artefacts recovered. Finally, we will refer to some lines of research currently being followed: the archaeology of landscape, personhood and identity.