South Africa and the decolonisation of the Antarctic Treaty System

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Abstract

Antarctica plays a pivotal role in global environmental health, influencing climate systems, weather patterns, ocean health, and biodiversity. As a key part of the planet's environmental balance, its offers insight into global environmental dynamics and serves as an indicator of planetary health. However, it also contains vast mineral resources, the tempting exploitation of which, poses significant risks to the environmental health of both Antarctica and the planet.

However, despite Antarctica's global importance, the Antarctic Treaty System (ATS) concentrates governance in the hands of a few countries excluding the vast majority of the world's nations from all decision-making processes, which undermines its legitimacy and the effectiveness of its environmental protection measures.

This lack of global inclusion, combined with the ATS's inability to address growing challenges, leaves Antarctica extremely vulnerable. Without significant reform, the ATS lacks the authority and legitimacy to effectively protect Antarctica's environmental future. However, drastic systemic change is unlikely to occur within the necessary time frame to prevent irreversible damage so urgent, internal, steps are needed to bolster its ability to confront these challenges in both the short and long term.

The ATS is thus suffering a crisis of legitimacy. It remains exclusive and unrepresentative, is controlled by a small group of nations, some of which have territorial claims and governs a continent that belongs to all of humanity. This is undemocratic, exclusionary and elitist. To enhance its legitimacy the ATS needs to become more democratic and representative. To do this, it must broaden its membership, enhance participation, and be more inclusive of voices from underrepresented regions.

South Africa, a founding member of the ATS, and the only African country in the ATS, is uniquely positioned to advocate for these changes. With its unique geopolitical perspective, South Africa can lead efforts to decolonise the ATS and make it more democratic and representative. By using the existing legal structures and encouraging broader membership, South Africa can help improve the ATS's legitimacy, making it better equipped to protect Antarctica's environment and better enable it to govern Antarctica in the long-term interest of all nations.

Synopsis

The environmental health of Antarctica is a vital component of the world's environmental health, its climate systems, its weather systems, the health of its oceans and its biodiversity. In other words, it lies physically at the core of the planet's future health, it provides a window into how those planetary health systems work and it also provides the best measure of the state of the planet's health. However, it also contains many resources the exploitation of which is both attractive to many parties and potentially destructive to Antarctica, its environmental health and therefore also to the planet.

In addition, the task of managing the protection of Antarctica's environmental health (in fact its governance as a whole), has, through a unique historical process, become concentrated in the hands of a few countries, and so while the issues are of global importance, their governance is not. Antarctica is currently facing an unprecedented array of challenges which threaten the health of its environmental future. One of the most important issues facing the current system is that an overwhelming majority of the world's nations are excluded from any form of decision-making with regard to Antarctica's future. It is now becoming increasingly clear that, without significant development, the current system of governance does not have the legitimacy or authority to adequately protect Antarctica's environmental future.

Fundamental systemic change, while desirable, would be, pragmatically speaking, absolutely impossible to achieve within the timeframe needed for any steps that a new system might institute to take effect before it is, environmentally speaking, too late for them to be effective. Thus, working within the system that is currently in place, urgent steps that will bolster the Antarctic Treaty System's (ATS) ability to confront these challenges both in the short and medium term, and even possibly in the long-term, are needed. These steps would have a significantly greater chance of being adopted, implemented and succeeding if they were to be initiated by the ATS itself and especially so if the ATS is regarded as a legitimate system which enjoys widespread support.

It is argued that this widespread support simply does not exist. There are a number of reasons for this, chief among them being that the ATS lacks legitimacy, where legitimacy is understood to mean that the ATS is an unrepresentative, self-elected, exclusive and elite body that, without a mandate, governs an entire continent that belongs to all of humankind, without the authority to bind any nation other than its selected members, yet protects the unrecognised territorial claims that a few select members claim to have to the vast majority of the continent and its resources. The legitimacy of the ATS is also undermined by the structure of the ATS itself and its growing inability to take the steps necessary to safeguard Antarctica's environmental future. This serious shortfall in legitimacy can be attributed to a number of factors, which stem from the primary fact that the ATS is a deeply colonial and thus undemocratic, exclusionary, elitist and unrepresentative system of governance.

The ATS needs to broaden its membership base, in terms of the geographical spread of member states (elitism). It needs to include the voices of more states in its decision-making processes (democracy). It needs to facilitate access to membership (exclusionary). And it needs to increase the number of member states (representativity). In short it needs to be decolonised.

South Africa, as one of the original founding parties of the Antarctic Treaty, as the only country from Africa that has ever been an Antarctic Treaty Consultative Party and as the only African country that is currently a Consultative Party to the Antarctic Treaty System, occupies a very unique position within the ATS. It is one of the countries charged with managing Antarctica in the interests of the world as a whole, yet it is also located in one of the most unrepresented and excluded parts of the world when it comes to participation in the ATS. South Africa is thus in an ideal position to propose these steps. Innovative, effective leadership is needed within the ATS and South Africa is in a position to contribute to this.

This thesis therefore describes, and places in context, the geopolitical forces that were at play during the creation of the Antarctic Treaty (the colonial vestiges and echoes of which still permeate the ATS today), the geopolitical forces at play today and the environmental significance of Antarctica.

This thesis then argues that the environmental protection of Antarctica should lie at the centre of any future Antarctic policy developments, taking the long-term view, supported by scientific research, that the health of the Antarctic environment is intrinsic to the environmental health of the planet and that the benefits of protecting and maintaining this outweigh any short term gains that have a negative impact on the Antarctic environment.

It identifies several challenges to the ATS achieving this, not least of which are the composition of the ATS, (it is small, exclusive and elite), the protection of the entrenched interests of an extremely small number of states (only 7 states claim territory in Antarctica), the internal mechanisms of the ATS itself, (specifically the consensus model of decision-making means that any full-member state can veto any decision made in the interests of Antarctica or humankind as a whole), and the lack of legitimacy of the ATS, (no non-member states are actually bound by any of the "laws" passed by the ATS).

The thesis concludes by offering a several possible interventions which South Africa is uniquely placed to implement which will have the effect of decolonising the ATS by, inter alia, ensuring that it becomes more representative, democratic, effective and inclusive. It can do this by using the existing legal structures and enhancing their application in order to bolster greater accession to the ATS, greater support for the legal regime and thus greater credibility for its regulatory rules and "laws". This will significantly enhance its legitimacy and better capacitate it to govern Antarctica effectively and in the interests of all humankind, but specifically in the converging interests of South Africa and Africa as a region.

Dedication

This thesis is dedicated to three people who have profoundly influenced my life – indeed without who I wouldn't exist as I do; my grandfather, Lieutenant Commander RNVR Reginald Hugh Towry Bellengère who as the Officer in Charge of Allied South Atlantic naval communication during World War II, had a metaphorical foot in the Southern Ocean on HMS Atlantic Isle on Tristan da Cunha, my father Beverley Hugh Bellengère who, serving in the South African Navy on South Ocean re-supply voyages, had a physical foot there and my son, Arasen Hugh Bellengère who I hope will grow up to be able to see the Southern Ocean and indeed Antarctica safely preserved for his, and future, generations.

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A deep and heartfelt thank you! I wouldn't have wanted to do it, and couldn't have done it, without you! It was even, at times, actually quite a bit of fun!

"Can we do it again tomorrow?"[1]

[1] The Levellers, "Do it Again Tomorrow" *Hello Pig* 2000.

Abbreviations

ACAP	Agreement on the Conservation of Albatrosses and Petrels
ACLI	Antarctic Logistics International
AFPS	Asian Forum for Polar Sciences
APECS	Association of Polar Early Career Scientists
ASOC	Antarctic and Southern Ocean Coalition
ASOS	Antarctica and Southern Ocean Strategy
AT	Antarctic Treaty
ATA	Antarctic Treaties Act 60 of 1996
ATCM	Antarctic Treaty Consultative Meeting
ATS	Antarctic Treaty System
BANZARE	British, Australian, New Zealand Antarctic Research Expedition
BAS	British Antarctic Survey
BRICS	Brazil, Russia, India, China and South Africa grouping
CARICOM	Caribbean Community and Common Market
CBD	Convention on Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCAS	Convention for the Conservation of Antarctic Seals
CEP	Committee for Environmental Protection
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COMNAP	Council of Managers of National Antarctic Programmes
CRAMRA	Convention on the Regulation of Antarctic Mineral Resource Activities
CSIR	Council for Scientific and Industrial Research
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DIRCO	Department of International Relations and Cooperation
DPW	Department of Public Works
DROMLAN	Dronning Maud Land Air Network
DST	Department of Science and Technology
ECA	Environment Conservation Act 73 of 1989
EPB	European Polar Board
FIDS	Falkland Islands Dependencies Survey
IAATO	International Association of Antarctica Tour Operators
ICJ	International Court of Justice
ICRW	International Convention for the Regulation of Whaling
ICSU	International Council of Scientific Unions
IMO	International Maritime Organisation
IPY	International Polar Year
MARS	Marine and Antarctic Research Strategy
NAM	Non-Aligned Movement
NBSE	Norwegian-British-Swedish Expedition
NEMBA	National Environmental Management: Biodiversity Act 10 of 2004
NRF	National Research Foundation
OAU	Organisation of African Unity
PEI	Prince Edward Islands
PSWS	Polar Space Weather Studies

RAMSAR	Convention on Wetlands of International Importance Especially as Waterfowl Habitat
RAPAL	Reunión de Administradores de Programas Antárticos Latinoamericanos
RDP	Reconstruction and Development Programme
RFMOs	Regional Fisheries Management Organisations
SAASORP	South African Antarctic and Southern Ocean Research Plan 2014 – 2024
SACAR	South African Committee for Antarctic Research
SANAE	South African National Antarctic Expedition
SANAP	The South African National Antarctic Programme
SANCOR	South African National Committee for Oceanographic Research
SASCAR	South African Scientific Committee for Antarctic Research
SCAR	Scientific Committee on Antarctic Research
SKA	Square Kilometre Array telescope
SOCCO	Southern Ocean Carbon & Climate Observatory
UNCLOS	United Nations Convention of the Law of the Sea
UNFCCC	United Nations Framework Convention on Climate Change
UNSC	United Nations Security Council
USA	United States of America

Contents

Chapter 1 Introduction

1.1 Preamble and rationale

Antarctica, despite its remoteness – both geographically and in the consciousness of most people – is a critical component of the world's weather systems, is central to the regulation of the world's environmental stability yet is increasingly under threat for a number of reasons, which include, inter alia, global warming, climate change, the allure of its potential untapped mineral (and other resource) wealth and an increasingly contested geopolitical space over its control. Therefore addressing the future Antarctica, specifically, its protection, the risks it faces and the responsibilities of the parties which have appropriated to themselves the role of managing it, has never been more pressing.

Yet, the international legal regime which governs Antarctica – the Antarctic Treaty System (ATS) – is undemocratic, colonial in nature, elitist, and fundamentally unrepresentative of the developing world.

The question that arises then is, what role can South Africa play in decolonising the ATS, thereby enhancing its ability to effectively govern Antarctica in the interests of all humankind? The answer to this question, this thesis will argue, is that South Africa, because of its historical involvement in Antarctica, its status as a founding Consultative Party to the Antarctic Treaty and its geopolitical position, is ideally placed to develop several interventions that will have a positive impact on the ATS's lack of legitimacy, thereby strengthening the ATS's ability to cope with the challenges to Antarctica's environmental future.

This thesis is, therefore, traces South Africa's historical involvement in Antarctica, it considers South Africa's present involvement, analyses South Africa's current Antarctic policy against the backdrop of its broader foreign policy and then makes suggestions as to how South Africa can concretely contribute to the decolonisation, democratisation and the legitimatisation of the ATS – thereby empowering it to actively pursue the goal of protecting and preserving Antarctica's environmental future.

1.2 Hypothesis

This thesis considers that South Africa, because of its historical and current involvement in Antarctica, is well-positioned to have a positive impact on the protection of Antarctica's future. This hypothesis is based on the following assumptions:

(i) That Antarctica is unique, geographically, historically, environmentally and geopolitically;

(ii) That Antarctica is of fundamental importance to the future health of the planet, its ecosystems, weather patterns, the health of its oceans, its biodiversity and its climate;

(iii) That Antarctica is also a critically important scientific laboratory that allows for unparalleled scientific research into, inter alia, precisely these important issues;

(iv) That Antarctica is facing unprecedented challenges, which, if not adequately dealt with, have the potential to undermine the security of Antarctica's environmental future;

(v) That the present system of Antarctic governance lacks the legitimacy and capacity to address these challenges because of its colonial, elitist, undemocratic and unrepresentative structure;

(vi) That South Africa, which has a long and unique involvement in Antarctica, is uniquely placed to make a positive contribution towards confronting and resolving some of this lack of legitimacy, by decolonising the ATS.

The thesis, therefore, proposes South African-initiated solutions to this lack of legitimacy, illustrating how South Africa can contribute to significantly decolonising the ATS by increasing representativity, rendering it more democratic, more inclusive and more representative, thereby enhancing its legitimacy as the de facto government of Antarctica.

1.3 Research questions

The overall research question therefore is: What can South Africa do to decolonise and enhance the legitimacy of the ATS? What can and should South Africa do to contribute positively to the future management and protection of Antarctica? The answer to this question has its foundation in the history of South Africa's involvement in Antarctica. This requires examining precisely what is it about SA's historical involvement in Antarctica that has resulted in it occupying the unique position that it holds today. This, of course, necessitates an analysis of precisely what is unique about its current position. This means assessing South Africa's reputation in Antarctica and the state of its present commitment, including its infrastructural commitment, its academic (from a scientific research perspective) record, and political attitude, expressed in its actions and in its policy documents. To decide how South Africa can best contribute to securing Antarctica's future the challenges to Antarctica's future that South Africa is best placed to address need to be identified. In other words, marrying South Africa's unique position and attributes to carefully selected areas of concern will achieve the most positive contribution to protecting Antarctica's future.

1.4 Structure and Methodology

This thesis is divided into three parts and adopts the methodology of a qualitative, non-empirical desktop study using secondary and primary material. The research is a mix of policy analysis, policy/process history with some doctrinal analysis.

1.4.1 Part 1: Historical and legal context (Chapter 2)

The first part provides a brief history of the discovery of the continent, its early exploration, exploitation and the events leading up to the creation of the Antarctic Treaty (AT). A continent of extremes and superlatives, as well as a source of endless fascination, this historical context while interesting is also relevant because these factors defined when, how and why human interaction first took place and how and why it continues to do so. Antarctica, more than any other continent, has dictated the terms upon which it reveals its secrets, so this has shaped the nature of humankind's interaction with it. In addition, the history of humankind's involvement in, and impact on, this unique continent is what led to the creation of the Antarctic Treaty and the development of a system of governance that is both brilliant and flawed, effective and impotent, revered and criticised in equal measure, but which, after 60 years, is still the only viable one in place.[2]

The second part of this chapter then provides an overview and analysis of the Antarctic Treaty itself, from an international legal perspective. It then goes on to describe its gradual evolution into the present day complex treaty system of interrelated instruments known as the Antarctic Treaty System. This includes a brief description of how, pragmatically, it operates as a system of governance. It concludes with a brief discussion of the UN Question of Antarctica, to date the most significant challenge to the ATS's existence and legitimacy. This historical and contextual information is necessary because the vestiges and echoes of the geopolitical forces that were at play during the creation of the Antarctic Treaty still permeate the ATS today.

The Antarctic Treaty System (ATS) is a unique and effective though arguably fragile method of regulating almost every aspect of human interaction with the entire continent of Antarctica and, to some extent, the surrounding Southern Ocean and some of the sub-Antarctic islands. The original Antarctic Treaty has been supplemented and its scope considerably expanded by a number of additional instruments, regulating a range of

[2] "Antarctic governance is considered to be of global interest. This situation is reinforced by the recognition of the integral role of Antarctica in the global ecosystem and its role as an important indicator for measuring climate change – the so-called canary in the coalmine." Vanstappen N "Inclusive and evidence-based decision-making in CCAMLR: a basis for ensuring compliance?" Working Paper No. 195, December 2017 KU Leuven, Leuven Centre for Global Governance Studies, pgs. 22-23, referring to Beck PJ, "Antarctica and the United Nations" in Dodds K J, Hemmings AD, & Roberts P, (eds), Handbook on the Politics of Antarctica, Cheltenham Edward Elgar 2017 pg. 255 and Chaturvedi S, "The Antarctic 'Climate Security' Dilemma and the Future of Antarctic Governance' in Hemmings AD, Rothwell DR, & Scott KN, (eds), Antarctic Security in the Twenty-First Century: Legal and policy perspectives, London, Routledge 2012.

different activities. These instruments have extended the original premise of the AT, that of peaceful governance and the primacy of scientific research, to include, probably as its main and overarching objective, the environmental preservation of Antarctica and the Southern Ocean.

Some of the more important aspects of the expanded ATS that need to be understood before any analysis of historical, current or future involvement can be conducted include the notion that Antarctica is a continent of peace, that Antarctica be preserved from exploitation and interference for the good of all humankind and for scientific research, that governance is undertaken by all the parties to the Antarctic Treaty on the basis of consensus, that a record of significant scientific commitment is required to accede to the Antarctic Treaty and that the AT, constructed as it is on an agreement to ignore competing claims of sovereignty to most of Antarctica which, if enforced, would precipitate significant conflict, nonetheless protects and preserves these claims in a sort of cryogenic stasis, and as such is a fragile colonial construct.

1.4.2 Part 2: South Africa's historical involvement in Antarctica (Chapters 3 & 4)

1.4.2.1 Introduction

The second part unpacks South Africa's historical involvement in Antarctica, focusing on South Africa's early involvement in Antarctica, its role in the creation of the Antarctic Treaty and its establishment and development of a significant scientific presence in Antarctica. It then describes South Africa's present position within the ATS, and includes a description of the South African National Antarctic programme, South Africa's ongoing commitment to scientific research in the Southern Ocean, the sub-Antarctic islands and on the Antarctic continent itself. It also includes a brief analysis of South Africa's current Antarctic policy and other relevant policies.

1.4.2.2 Chapter 3

The focus of the first part of Chapter 3 is on South Africa's early involvement in Antarctica, from the discovery and exploration of Antarctica up to the creation of the Antarctic Treaty. This includes South African activity in the Southern Ocean, specifically South Africa's acquisition of the Prince Edward Islands, as well as South Africa's involvement in the International Geophysical Year of 1957, both of which contributed significantly to South Africa becoming a founding party to the AT.

South Africa has been involved, initially peripherally, in Antarctica since before Antarctica was discovered, with Cape Town playing an important staging point in voyages of Antarctic discovery. It was directly involved in the early exploitation of Antarctic resources.[3] It was a

[3] Sealing and Whaling.

gateway to Antarctica for numerous famous Antarctic exploration expeditions. South Africa was also directly involved, often through remarkable individuals, in scientific exploration and research, before becoming formally involved with the formation of the Antarctic Treaty.

The balance of Chapter 3 covers South Africa's involvement in the period following the creation of the Antarctic Treaty up to the advent of democracy in South Africa. It is an interesting period covering not only the expansion and evolution of the Antarctic Treaty into the ATS, discussed above, and the UNGA 'Question of Antarctica' in which South Africa became something of a negative focal point, but also the dramatic changes that occurred in South Africa with the advent of democracy.

South Africa has a longstanding and respected position within the ATS. It is one of the 12 founding members of the AT[4] and it has maintained a research presence in Antarctica ever since the inception of the ATS in 1961, including throughout the apartheid era. Although 7 of the 12 original contracting parties claim sovereignty over parts of Antarctica,[5] or reserve the right to do so,[6] South Africa is not one of them, although it could have done so. South Africa, however, does have sovereignty over some sub-Antarctic islands[7] and is the only non-claimant state that does. It is therefore deeply embedded in Antarctica, the Southern Ocean, the sub-Antarctic islands and the ATS itself.

1.4.2.3 Chapter 4

Chapter 4 first briefly discusses South Africa's transition to a post-apartheid state, which had a significant impact on the reformulation of South Africa's relationship with Antarctica and the ATS. It covers the period up to the present, describing South Africa's ongoing scientific activity in the Southern Ocean, on the Prince Edward Islands and in Antarctica itself. It deals with the reformulation of South African Antarctic policy, Southern Ocean research policy, governmental department restructuring and South Africa's much-changed foreign policy. Various relevant policy documents that shed light on South Africa's present attitude to Antarctica (and which afford some insight into the direction South Africa might be heading) are discussed. It concludes with a very brief analysis of South Africa's Draft Antarctica and Southern Ocean Strategy (Draft ASOS) 2020 which was released for public comment while this thesis was being written. This policy has since been approved and gazetted (in March 2021) and the changes between the draft and final versions are also discussed.

An understanding of South Africa's history in Antarctica and the ATS is important and necessary for several reasons. Firstly, it is in and of itself worthy of interest and should be analysed, recorded and preserved. Secondly, it has a significant influence on South Africa's

[4] Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, Russia, South Africa, the United Kingdom and the USA.
[5] Argentina, Australia, Chile, France, New Zealand, Norway and Britain.
[6] The USA and Russia.
[7] The Prince Edward Islands.

present involvement in Antarctica and South Africa's current position on Antarctic issues.[8] It is not the only influence, of course, but the importance of a credible positive history in Antarctica cannot be lightly discounted. Thirdly, and very importantly, South Africa's history in Antarctica places it in a unique position which provides it with a unique platform to make a positive contribution to Antarctica's future.

South Africa's historical involvement in Antarctica is credible and unique and much the same can be said of its present involvement. Developments in South African Antarctic policy over the last few years, and in particular since the advent of democracy in 1994, have both reaffirmed and reinforced South Africa's commitment to Antarctica and the ATS and have increased South Africa's involvement. South Africa has committed itself financially to the Antarctic and Southern Ocean with significant capital investments and South African scientific research in Antarctica, the Southern Ocean and the sub-Antarctic islands is internationally respected.[9] South Africa has, however, also gone through a period of significant transition which has had an influence, mostly also positive, on its Antarctic involvement. It is currently the only country in Africa that is a member of the ATS. While the ATS may boast that, through its 58 member states,[10] it represents 80% of the world's population,[11] the lack of African involvement is a glaring gap in this representivity. South Africa has thus become an African state, representative of Africa's interests, as opposed to an African state the interests of which were the very antithesis of Africa's. This has significant implications for the future role that South Africa might play in the ATS.

1.4.3 Part 3: Challenges and South Africa's role in providing solutions (Chapter 5)

Part three deals with the role that South Africa can and should play in securing the future of Antarctica. To this end, it identifies specific areas where South Africa's unique position within the ATS can be used to address some of the most serious challenges facing the security of Antarctica's future. First, however, it must identify these challenges to the Antarctic Treaty System's ability or capacity to achieve the suggested desired goal of protecting Antarctica's environmental legacy. The chapter identifies one of these challenges as lying in the inherently unrepresentative and colonial nature of the ATS. This means, it is argued, that the Antarctic Treaty System lacks legitimacy. This manifests in the inability or lack of capacity of the ATS to achieve the necessary and desired goals of protecting Antarctica's environmental legacy.

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[8] As Rothwell notes, the 12 original contracting parties enjoy a special status in that are permanently members, irrespective of their scientific commitment, unlike any subsequent members who remain members only for so long as they are scientifically involved. Rothwell DR, "The Antarctic Treaty at Sixty Years: Past, Present and Future" *Melbourne Journal of International Law* 2021 22 (2) 1-25.

[9] "South Africa has a long-standing track record and long-term commitment to undertaking research in the region." Ansorge IJ et al, "Exploring South Africa's southern frontier: A 20-year vision for polar research through the South African National Antarctic Programme" *South African Journal of Science* 2017 113 (5/6) pg. 2.

[10] Secretariate of the Antarctic Treaty. https://www.ats.aq/devAS/Parties?lang=e. February 2025.

[11] https://www.coolantarctica.com/Antarctica%20fact%20file/science/government_antarctica.php. May 2021. A more rational claim would suggest about two thirds of the world's population.

The first part of Chapter 5 therefore commences with an analysis of the challenges that a lack of legitimacy entails. It does not focus on the substantive challenges that are already well-known, for example climate change, invasive alien species as a threat to biodiversity, bioprospecting, mineral prospecting, whaling, krill harvesting, illegal fishing, tourism and many others, because these are both well-known and can be managed by the present form of Antarctic government. Instead it focuses on challenges inherent in the governance system that are actively preventing effective responses to these challenges and which have the potential to weaken the system to such an extent that it will be unable to respond effectively to these challenges should a crisis arise. In other words, the current system's fundamental lack of legitimacy.[12] Addressing this inherent or internal issue, it is argued, will capacitate the ATS when dealing with many of the extrinsic challenges to Antarctica's future.

This lack of legitimacy stems from several causes, several of which will be dealt with in this thesis, but the most significant being that the ATS consists of a closed clique which deliberately shuts out poorer countries.[13] This is based on the fact that the Antarctic Treaty was created by 12 founding parties which control the governance of the entire continent and on the fact that the criteria for joining the AT, namely that the country seeking to join must establish and maintain a scientific presence on the continent, places membership beyond the financial capabilities of, inter alia, almost the entire developing world. The Antarctic Treaty thus was, and still is, perceived by some as being elitist.

Secondly, because only a limited number of countries have joined the ATS, only 58 as at 2024,[14] and especially because only 29[15] of them maintain a scientific presence sufficient to warrant Consultative Party status, a precondition necessary to be able to participate in, and vote on, Antarctic issues of governance, it is perceived to be a closed club which represents the interests of a very limited number of nations. These, certainly at the inception of the AT, represented the decision-making powers of Europe and America (or states under their influence, like Australia and New Zealand) and thus the system was not internationally representative.

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[12] On legitimacy generally see Yermakova Y, "Legitimacy of the Antarctic Treaty System: is it time for a reform?" *The Polar Journal* 2021 11 (2) pgs. 342-359, Yermakova Y, "Governing Antarctica: Assessing the Legitimacy and Justice of the Antarctic Treaty System", Doctoral Dissertation in Philosophy Faculty of Humanities University of Oslo, Norway 2021; Molenaar EJ "Participation in the Antarctic Treaty" *The Polar Journal* 2021 11 (2) pgs. 360-380 and Dudeney JR & Walton DWH "Leadership in politics and science within the Antarctic Treaty" 2012 31 *Polar Research* 11075.

[13] "Given its location and climatic conditions, conducting research on Antarctica is expensive. This requirement effectively prohibits developing countries from voting on Antarctic issues, since they cannot meet the monetary demand inherent in Consultative party status." Grob J, "Antarctica's Frozen Territorial Claims: A Meltdown Proposal", *Boston College International and Comparative Law Review* 2007, 30 (2) pg. 469.

[14] Now 58, Saudi Arabia having acceded to the Antarctic Treaty in May 2024 and the United Arab Emirates in December 2024.

[15] https://www.ats.aq/devAS/Parties?lang=e. May 2021.

Thirdly, 29 countries have appropriated to themselves the right to decide on Antarctic matters that pertain to and affect the entire world, be they environmental or access to resources thus rendering the system of governance significantly undemocratic.

Finally, latent claims to sovereignty over huge swathes of the continent (coupled with the elitist and exclusive system of governance) have imbued the ATS with a distinctly colonial tint. While Antarctica was not inhabited, the methods of, and justifications for, these claims mirror the, largely, ruthless western colonial exploitation of resources at the expense of poorer, less developed or weaker nations.

However, many will argue that the Antarctic Treaty has survived, indeed flourished, developing from a treaty designed to ensure scientific co-operation among 12 countries to a treaty system which is now equally, if not primarily, concerned with the environmental management and protection of Antarctica and all its ecosystems, and which boasts a membership of 58 countries. It has been, the argument goes, undeniably successful and the resilience[16] of the ATS to cope with challenges confronting the ATS and Antarctica has proven sufficient in the past. The question that remains, however, is whether it can continue to be so. As Antarctica becomes more accessible,[17] as the demand for resources increases, as new resources are identified and as the future of the entire world becomes more and more tied up with the future of Antarctica (be it the preservation thereof or the exploitation thereof) questions about the legitimacy of the ATS as a representative governance regime, listed above, need to be addressed.

Further, the geopolitical forces at play today, however, are significantly different to those at play in 1959 and the ATS itself is also significantly different to the Antarctic Treaty regime created in 1959. However, just as the geopolitical landscape has evolved since 1959, so too has the status of Antarctic resource exploitation as well as the various other factors that impact on, and in some cases constitute a threat to Antarctica.[18] This chapter then progresses to suggest a 'decolonial' role that South Africa can play, as a matter of form, in the ATS, by using its unique position to institute steps and processes that can positively contribute to the development of the ATS and the legitimatisation thereof, cognisant of the need for the ATS to adapt to or to evolve to deal with these issues or risk losing control of Antarctica.[19] It argues that enhancing the legitimacy of the ATS itself will better empower

[16] A term used by Dodds in describing the ATS regimes ability to adapt to, and overcome, the challenges it has faced in the past. Dodds KJ, "*Antarctic Geopolitics*" in Dodds KJ, Hemmings AD & Roberts P, (eds.) Handbook on the Politics of Antarctica Cheltenham, Edward Elgar 2017, pg. 208.

[17] "…as a result of climate change and technological advances, Antarctica is becoming more accessible to both states and others (adventurers, corporations, tourists, non-state actors), resulting in new challenges for Antarctic governance that were unforeseen in 1961." Rothwell op cit note 7 pg. 3.

[18] Rothwell makes the same point, succinctly noting that "The reality is that Antarctica is not the same as when the *Antarctic Treaty* was negotiated." Rothwell op cit note 7 pg. 3.

[19] "And yet, on the sixtieth anniversary of the signing of the Antarctic Treaty, it is not clear whether the ATS is equipped to respond to the changing environment in the Antarctic, to the growing interest in its resources, or to the increasing activities in the region while constraining the tensions between the claimants and the rest of the world." Yermakova Y Governing Antarctica: Assessing the Legitimacy and Justice of the Antarctic Treaty System, Doctoral Dissertation in Philosophy, University of Oslo, Norway, 2021 pg. 26.

the ATS to continue with its stated objectives of protecting and preserving Antarctica's environmental future.

It therefore sets out South Africa's proposed future Antarctic involvement, relying on the very recently gazetted Final Antarctica and Southern Ocean Strategy 2021 (ASOS)[20] and on South Africa's unique position and argues that these factors form the basis upon which South Africa can lead, inter alia, the democratisation, decolonisation and internationalisation of Antarctica by addressing the lacuna of African involvement in the ATS and Antarctica. South Africa has a well-established position vis-a-vis Antarctica, but there is no clear articulation of an African regional attitude to Antarctica – no African state other than South Africa is, after all, a member of the ATS. South Africa, in addition, has stated categorically in its White Paper on South Africa's Foreign Policy[21] that it considers its "national interest as being intrinsically linked to Africa's stability, unity, and prosperity," that it "accords central importance to our immediate African neighbourhood and continent," and that it "has prioritised an Afro-centric foreign policy rooted in national liberation, the quest for African renewal, and efforts to negate the legacy of colonialism as well as neo-colonialism." The chapter suggests concrete steps that South Africa can take that fall squarely within this paradigm and which will address the crisis of legitimacy that the ATS is presently facing.

1.5 Conclusion

South Africa's possible future role in Antarctica will thus be shaped by a multiplicity of factors including its historical and current involvement in the ATS, the uniqueness of its position amongst the Antarctic Treaty Consultative Parties (ATCPs), its geopolitical position (especially as a representative of Africa) as well as future developments in its foreign policy and Antarctic policy, both of which are undergoing a process of development and evolution. In addition to these factors, when considering South Africa's potential role, one will also need to take into account a wide range of possibly competing interests in Antarctica: the limited self-interest of SA, the interest of Africa as a region, expressed either through SA or contrary to SA, the interest of the world as a whole (which may either be a conglomeration of individual self-interested states or an expression of a collective global long-term interest expressed through the ATS, for example) and what is in the interests of Antarctica itself as a continent.

Against this backdrop this thesis, rather than merely speculating on the possible future of SA in Antarctica, uncovers weaknesses inherent in the ATS System which specifically pose a threat to Antarctica's future environmental integrity and then specifically suggests ways in

[20] Department of Environmental Affairs, (DEA) Antarctica and Southern Ocean Strategy (ASOS) 19 March 2021.
[21] Department of International Relations and Cooperation (DIRCO) Building a Better World: The Diplomacy of Ubuntu, White Paper on South Africa's Foreign Policy. Final Draft – 13 May 2011. pg. 14. https://www.gov.za/sites/default/files/gcis_document/201409/foreignpolicy0.pdf. May 2021.

which SA can assist or even take the lead in innovatively developing mechanisms to strengthen the ATS, to combat these weaknesses and to addresses some of the challenges confronting Antarctica.

Chapter 2 The Antarctic Treaty and its development

2.1 The discovery of Antarctica

The recent historical discovery of Antarctica fails to give a true impression of the long-held speculative belief, before its discovery, that Antarctica existed[22] – it is in fact the only continent to have been named[23] before its existence was established. There are many expeditions that have contributed greatly to our understanding of the Southern Ocean, even if they were not necessarily aimed specifically at establishing the continent's existence. That the speculative southern continent was not attached to Africa was confirmed by Diaz's voyage that rounded the Cape in 1487, and when Magellan circumnavigated the globe and skirted Cape Horn in 1522, he likewise established the coastline of South America – and fuelled a belief that the land south of his passage was the southern continent. Drake, when he rounded Tierra del Fuego[24] in 1578, proved that this was not actually the case, but instead confirmed that these islands serve as a gateway to the Antarctic region.

There were many other attempts to confirm the continent's existence, but few were as successful and captured the public imagination as much as Captain James Cook's. Cook's expeditions, particularly his second expedition[25] from 1772 -1775 which established Cape Town as a gateway to southern exploration, failed to confirm Antarctica's existence, but left a record of remarkable exploratory achievement. Cook discovered many of the sub-Antarctic Islands including the South Sandwich Islands, landed on South Georgia, and was the first person to cross into the Antarctic Circle. In addition, Cook established and confirmed the circumpolar nature of the Southern Ocean, establishing that a southern continent, if it did exist, was completely isolated from the rest of the world.

More Antarctic and sub-Antarctic islands were discovered in the period that followed, but not in the name of science or exploration, but for exploitation. Most of the seal species of Antarctica faced near elimination during a period of brutal and unmitigated slaughter by sealers searching for fresh hunting grounds across large parts of the Southern Ocean. Details were deliberately kept vague to fend off competitors; it's possible that sealers set foot on the Antarctic continent during this period,[26] but the verification of many of the accounts remain uncertain.

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[22] The ancient Greeks, (Aristotle among others) and ancient Egyptians (Ptolemy for example) postulated that a Southern Continent existed.

[23] Technically, the name "Antarctica" was attributed to the continent in 1890 in an atlas published in that year, by JG Bartholomew, though the word "Antarctica" was used to as an adjective to describe flora of the region and "Antarctic" had long been in use. It is derived from the Greek, Antarktos – the southern opposite of Arktos, (whence the name Arctic is derived), the name assigned to the Northern Pole star, and speculated by the Ancient Greeks to be mirrored by a Southern Pole Star or Antarktos.

[24] The sea separating Tierra del Fuego and Antarctica is now known as the Drake Passage.

[25] His first, aboard HMS Endeavour, introduced Europe to New Zealand and the east coast of Australia.

[26] During the 1820 – 1821 season, in February 1821, sealers on at least three separate occasions probably set foot on the continental mainland; Davis on Cecilia, McFarlane on Dragon and Usher on Caraquette, though other landings probably took place.
https://www.coolantarctica.com/Antarctica%20fact%20file/History/discovery-of-antarctica.php. July 2023.

Exploratory expeditions still took place, however. On one of these[27] voyages, in 1821, von Bellingshausen first sighted the Antarctic continent. Other significant expeditions that contributed to the knowledge development about Antarctica include the US Exploring Expedition of 1938, headed up by Charles Wilkes,[28] an 1837 French expedition under Dumont d'Urville,[29] and an 1839 British expedition under James Clark Ross.[30]

It took another 5 decades before further exploration of any note took place. In a short span of 20 years, a period known as the Heroic Age of Antarctic Exploration, significant events of exploration included the following:

- Seven men from the Norwegian ship Antarctic under the command of Henrik Bull made the first documented landing on the Antarctic mainland in 1895.
- The Belgian Antarctic Expedition became the first expedition to over-winter within the Antarctica circle when their ship was wedged in the ice from February 1898 to 14th March 1899.
- The 1898-1899 Southern Cross Expedition under Borchgrevnik (who was one of the 7 men who were the first to set foot on Antarctica in 1895) was the first expedition to spend a winter in Antarctica on the continent.
- Scott's 1901-1904 Discovery Expedition.
- The 1902-1904 Scottish National Antarctic Expedition, which established the first permanent base on Antarctica.[31]
- The first German expedition, the 1901-1903 Gauss Expedition under Drygalski, during which the Gauss was trapped in ice the day of its arrival, and remained trapped in Antarctica for 14 months.[32]
- During the 1901-1904 Swedish Antarctic Expedition, the ship the Antarctic was crushed by ice and sank, resulting in the expedition members remaining in Antarctica for two years before they were rescued. The Antarctic was previously used by Bull in 1895, during the first landing on the mainland.
- The first French Antarctic Expedition, 1903-1905, under Charcot.

[27] A Russian Imperial expedition.
[28] Wilkes claimed, correctly, to have outlined, at last, the Antarctic continent.
[29] Which sighted and named Terre Adelie in 1840, (named after Dumont d'Urville's wife) and the Adelie penguin. It was d'Urville who, many years earlier, on spotting a then recently discovered statue of Venus on the island of Milos arranged for it to be purchased by his country where it is on display in the Louvre as the Venus de Milo, and is internationally celebrated.
[30] After whom the Ross Sea and the Ross ice shelf is named and whose ships HMS Erebus and HMS Terror lent their names to two volcanoes in Antarctica before being eventually, and famously, lost in the search for the Northwest Passage while under the command of Franklin in 1845. Ross is also credited with discovering the transantarctic mountain range.
[31] Called Ormond House, and located on Laurie Island. This base was handed over to Argentina which renamed it Base Orcadas, and which still operates it as a meteorological station, making it the oldest station in Antarctica.
[32] Drygalski conducted the first aerial photography in Antarctica and compiled voluminous scientific notes from his research and observations. Several Antarctic features are named after him, including a glacier, island and fjord, as well as a street in Munich, a crater on the moon, a glacier on Mt Kilimanjaro and a spider in South Africa.

- Ernest Shackleton's 1907-1909 Nimrod Expedition, during which Shackleton turned back from within 100 miles of reaching the South Pole due to insufficient food supplies.
- Charcot's second French Antarctic Expedition of 1908-1910.
- Roald Amundsen's 1910-1911 South Pole Expedition, the first to reach the South Pole on the 14th December 1911.
- During the Terra Nova expedition, Scott's second expedition, Scott was narrowly beaten to the Pole by Amundsen. Scott and his four companions died on this expedition.
- The 1911-1914 Australasian Antarctic Expedition under Mawson, renowned for individual survival in Antarctica.
- The 1914-1917 Imperial Trans-Antarctic Expedition on the Endurance, led by Shackleton saw the Endurance trapped in ice for 9 months before it sank. The crew survived on shifting ice for 6 months, until they were able to sail to Elephant Island. Shackleton and 5 other crew members traversed the Southern Ocean for 1300km in an open boat to South Georgia to find assistance.

Although Shackleton did return to Antarctica, he died of heart failure in South Georgia on the 5th of January 1922 on board the Quest. The expedition continued under Frank Wild, and when it terminated in Cape Town on the 18th June 1922 it also brought to an end the Heroic Age of Antarctic exploration.

The Second World War saw the focus on Antarctica shift to primarily state or military purposes. Before it entered WWII, the USA's 1939 expedition established temporary bases in Antarctica: East Base and West Base. Both were evacuated two years later, as the war dominated the attention of the USA.

2.2 The establishment of a human presence

Discovery and exploration were closely followed by issues of claims to sovereignty over Antarctic territory, control and the exploitation of resources and the notion of nationalistic pride. Antarctica's uninhabited status – it was long considered terra nullius[33] - only seemed to make the practice of simply claiming large swathes of land in the name of a monarch or country more acceptable. Competing, overlapping and disputed claims, as well as completely false claims (some of which are unresolved today) were par for the course in a

[33] Engelbertz S, Values in Antarctica: Discourse Analyses of Two Topical Issues in Antarctic Policy, PhD, University of Canterbury, 2015, pg. 61, referring to Klotz FG, "*America on the Ice: Antarctic Policy Issues*" Washington, DC: National Defence University Press 1990; Roots EF, "Background and Evolution of Some Ideas and Values That Have Led to the Antarctic Treaty" in Berkman PA, *et al.* (eds.) Science Diplomacy: Science, Antarctica, and the Governance of International Spaces, pgs. 69–72, Washington, D.C. Smithsonian Institution Scholarly Press, 2011 and Shapley D, The Seventh Continent: Antarctica in a Resource Age, (Vol. 2013) New York, Routledge, 2011.

context that lacked internationally acknowledged and coherent regulations that might have prevented the undermining of the integrity of the process.

By the end of the Second World War, several countries had launched state or private expeditions to Antarctica, including Britain, Norway, France, Germany, Russia, Australia, the United States, Belgium, Sweden, Argentina and Japan, but few bases were actually established. The Scottish National Antarctic Expedition, mentioned above, established a station where they were forced to spend the winter on Laurie Island in the South Orkney Islands in 1903. Argentina moved into the base in January 1904, at the same time establishing the first permanent Antarctic station, re-named Orcadas Station, which is still currently active. Other permanent stations[34] established since Antarctica's discovery until the end of the Second World War were Port Lockroy, [35] established by Britain on Goudier Island off the Antarctic peninsula[36] in 1944, and a further two bases at Deception Island[37] and at Hope Bay on the Trinity Peninsula.[38] This was done as part of the naval operation named Operation Tabarin that ostensibly served to protect British interests from Axis naval threats, but really in response to Argentinian actions aimed at establishing sovereignty over parts of Antarctica. Thereafter, Britain established another 5 bases[39] immediately after the Second World War; not all of these were permanent.

In the years that followed, a steady stream of occupations began on or close to the Antarctic Peninsula. Captain Arturo Prat Base on Greenwich Island in the South Shetland Islands was established by Chile in 1947, and Base General Bernardo O'Higgins Riquelme at Cape Legoupil near the tip of the Antarctica peninsula was established in 1948, again by Chile and under the guise of a scientific research base, but its real purpose was to secure ground to improve the chances of its recent claims to Antarctic sovereignty. Chile also established Gonzalez Videla Station at Waterboard Point in 1951. Argentina too, with a similar agenda, continued to expand its reach in Antarctica with a second base, Melchior Station, established on Observation Island in 1947, followed by several permanent bases such as Deception Station on Deception Island in 1948, Paradise Harbour's Brown Station in 1951,

[34] The USA built Little America in 1929 and East Station in 1941. Little America was actually a series of semi-permanent bases built on the Ross Ice Shelf, all of which were eventually carried out to sea and lost. It was abandoned in 1987. Neither were permanently occupied, although expedition members did over winter there.
[35] It is no longer in operation but has been designated a Historic Site under the Antarctic Treaty and is managed by the UK Antarctic Heritage Trust. Martin MA, & Rae J, A Brief History of the Research Stations and Refuges of the British Antarctic Survey and its Predecessors Edition 6.2 (Dec 2016) British Antarctic Survey Archives Natural Environment Research Council - British Antarctic Survey, 2016.
[36] Ostensibly for scientific purposes, it was in fact a direct response to Argentina claiming a portion of Antarctica and was done in secret, by the British Navy in order to establish a permanent British base to protect British interests in Antarctica. Britain, had by this stage clamed huge portions of the continent and had designs on claiming the entire continent.
[37] Abandoned in 1969 after being destroyed by a volcano. Martin & Rae op cit note 34.
[38] One of the scientists working at Hope Bay Station from 1947 to 1950 was Dr R J Adie, a South African-born geologist and graduate of UND and South Africa's first recipient of a Polar Medal. Hope Bay Station was ttransferred to Uruguay and renamed Teniente Ruperto Elichiribehety Uruguayan Antarctic Scientific Station in 1997. Martin & Rae op cit note 34. It is still in use and is thus the oldest, permanently occupied, station on the Antarctic mainland.
[39] Named, unimaginatively, Stations C, E, F, G and H. A, B and D were Port Lockroy, Deception and Hope Bay respectively.

San Martin Station on Barry Island (just south of the Antarctic Circle) in 1951, and Esperanza Station, also at Hope Bay, in 1951. Argentina also secured four more bases on and around the peninsula in the following years, as well as a number of summer-only bases.

France built Port Martin in 1950 on the Antarctic mainland, but after it was gutted by fire in 1952 it was abandoned. The next base was established when Mawson Station on the East Antarctic mainland was built in 1954, the first to be constructed off the peninsula but still on the continent, it also claimed to be the first base to be established south of the Antarctic Circle. Mawson Station is still in use by Australia. But Port Martin first laid claim to these honours, and San Martin, established in 1951, is also situated south of the Antarctic Circle, although it is built on an island, and is also currently used by Australia.

2.3 The concept of science

2.3.1 As a foundation and component of the ATS

The concept of an International Polar Year (IPY), a year dedicated to the scientific study of the poles, was proposed in 1875. The first IPY, involving 12 countries, took place in 1882-1883 and the second, involving 44 countries, took place in 1932-1933. This concept inspired the International Geophysical Year, which was scheduled for 1957-1958 and which incorporated the third IPY. In all, 67 countries participated in the IGY, with 12 active in Antarctica. In July 1955 the First Antarctic Conference took place in Paris to coordinate IGY/IPY plans. It was here that Chile and Argentina insisted that scientific activity should have no impact on territorial claims for the duration of the IGY/IPY.[40]

The establishment of a scientific committee to advise on Antarctica's research activity, initially called the Special Committee on Antarctic Research and re-named the Scientific Committee on Antarctic Research (SCAR) in 1961,[41] was the most important outcome of the IGY/IPY.[42] The expeditions and research stations organised and established for the IGY/IPY were also particularly important for Antarctica, as well as the moratorium on territorial claims that was agreed for the duration of the event.

The first station established (mentioned above) prior to the Paris Conference was Mawson Station, built by Australia, who then went on to establish Davis Station in 1957. The USA established Wilkes Station and the famous Amundsen Scott base at the South Pole, also in 1957. The British established Halley Station in 1956, the Japanese established Showa

[40] "Their insistence on maintaining the status quo appears to have subsequently formed the basis of a "gentlemen's agreement" by which participating governments agreed not to "engage in legal or political argumentation" over Antarctic sovereignty during the IGY. Triggs G, "The Antarctic Treaty System: A Model of Legal Creativity and Cooperation" in Berkman, PA, Lang MA, Walton DWH, and Young OR, (eds.) Science Diplomacy: Antarctica, Science, and the Governance of International Spaces, 2011 Smithsonian Contributions to Knowledge, pg. 42. This was, in essence, simply an extension of the Escudero Declaration made in 1948 when Chile suggested that territorial claims be put on hold in the interests of science.

[41] https://www.scar.org/about-us/history/. May 2020.

[42] South Africa is a founding member, together with the 11 other countries active in scientific research in Antarctica at the time. "https://www.scar.org/about-us/history/. May 2020.

Station in 1957 and Belgium established King Baudouin Base in 1958. France built two stations,[43] Dumont d'Urville Station and Charcot Station, as did Russia – Mirny Station in 1956 and Vostok Station in 1957 – at the south geomagnetic pole.

Several expeditions took place during the 1957/58 IGY/IPY, the most famous of which was the Vivian Fuchs-led Commonwealth Trans-Antarctic Expedition. This was the first expedition to cross the continent and the third to reach the South Pole after Amundsen and Scott, although the Amundsen-Scott base had already been established there, by air. The third Soviet Antarctic Expedition reached the Pole of Inaccessibility on 14 December 1958, and established the temporary Pole of Inaccessibility Station that features a bust of Lenin looking towards Moscow.[44] One of the Fuchs expedition party was JJ La Grange,[45] a South African meteorologist who planted a South African flag at the Pole on 19 January 1958, making South Africa the joint-third nationality to reach the Pole overland,[46] and joint-first to cross the continent.

Geopolitically, the success of the IGY/IPY laid a foundation for the development and eventual adoption of a system of multi-national governance in Antarctica based on the two cornerstones of science and deliberately ignoring or freezing territorial sovereignty claims to prevent them from undermining the cooperative management of Antarctica.

2.3.2 As a means of decision making

Science continues to be one of the three fundamental pillars holding up the ATS. Firstly, it was central to the formation of the AT and, in the early stages of the formation of the AT, the shift from scientific research in narrow national interests to a broader, more cooperative international focus, encapsulated by the 1957/58 IGY/IPY, was the zeitgeist that was captured in the AT.

Secondly, science has been enshrined at the heart of the AT with its substantial contribution being directly acknowledged in the preamble to the AT and with the principle of freedom of scientific investigation being included as one of the core principles of the AT, and subsequently the ATS.

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[43] France had in fact established a station in 1950, but it was destroyed by fire in 1952.
[44] The bust is now all that remains and is a protected historic site.
[45] La Grange was back in Antarctica within the year, leading the 1959 South African's first Antarctic expedition (SANAE I) to establish South Africa's permanent Station in Antarctica, (Norway Station) which was completed on 15th January 1960 when South Africa took over the Norwegian base. http://blogs.sun.ac.za/antarcticlegacy/event/this-day-in-history-the-polarbjorn-arrives-at-polarsirkel-bukta-antarctica-with-the-first-sanae-team-in-1960/. May 2020. See also La Grange JJ, "The beginning: 2 the first South African national Antarctic Expedition, 1959-60" *South African Journal of Antarctic Research* 1991 21 98-106.
[46] 4th if one splits the Commonwealth Trans-Antarctic Expedition crossing and support parties, which would then accord Hillary and New Zealand as the 3rd, the support party reaching the pole earlier than the crossing party. Interestingly, although the South African national flag was flown during the expedition, La Grange elected to unfurl a green flag adorned with a springbok and a protea at the Pole – an extraordinarily prescient and apolitical act.

Thirdly, it continues to play a crucial role in the ATS in a number of ways. It remains the predominant form of human interaction with Antarctica; it remains the price of entry to full membership of the ATS, although, as will be seen later in this thesis, this is a contentious issue; the science produced is critical to advancing human understanding of several significantly important areas of knowledge, from meteorology, to ocean science, mineral research, biological knowledge, space physics, physics, communication technology, climate change and a myriad other important and human endeavours, and it is central to informing policymaking and decision-making (both within the ATS and without), although there are strong arguments to be made that science as a basis for Antarctic policymaking is not centralised enough and that a greater emphasis should be placed on the role of science, especially in environmental issues. Vanstappen is clear, too, that with regard to Antarctic policy, "decision-making should be based on the best scientific evidence available"[47] and reliance on science for decision-making and policy making would have the added benefit of enhancing the legitimacy of the ATS, although this will be discussed later. Others are of a similar mind and Yermakova, Hingley and Shibata note that "[p]olicymaking relies on scientific knowledge, especially when it comes to environmental governance, which is highly relevant to decision-making in the Antarctic regime."[48] This importance cannot be overstated and SCAR established an action group, the Policy-Law-Science Nexus Action Group (PoLSciNex AG) on Resilience and the Future of Science-based Decision-making for Antarctica, specifically mandated to

> "[a]nalyze the policy-law-science nexus within the current Antarctic governance framework and to articulate the practical significance of understanding such a nexus, so as to inform stakeholders how science-based decision making relevant to Antarctica is actually operationalized.[49]

This of course raises further questions. Conducting scientific research in Antarctica and the results of the research are not immune to criticism. The high price of science in Antarctica is arguably exclusionary, especially with regard to the Global South, and this needs to be addressed and guarded against as the high hurdle to membership has an impact on the perceived legitimacy of the ATS. However, Roberts, for example, adds an additional element to the traditional criticisms of input legitimacy, suggesting that global climate change may have overcome science as a ticket of entry and that consideration should be given to "assigning authority within the ATS to states affected by climate change."[50] He concludes that

[47] Vanstappen op cit note 1, pg. 8.
[48] Yermakova, Y, Hingley, R, & Shibata, A "The policy-law-science nexus in the Antarctic" 2024 36 (3) *Antarctic Science*, 184–187.
[49] SCAR: PoLSciNex (Policy-Law-Science Nexus), https://scar.org/science/hass/polscinex March 2025.
[50] Roberts, P "Does the science criterion rest on thin ice?" *The Geographical Journal* 2023 189 18–24 pg. 18.

> "[w]while the science criterion remains viable, it rests on a moral as well as practical foundation that could be undermined if the right to authority over Antarctica remains disconnected from the actions that cause changes to the continent."[51]

There is also the criticism, as Yao argues, that:

> "[s]cience worked both as a civilized marker of international status as well as a social performance that legitimated actors' imperial interests in Antarctica. The 1959 ATS relied on science as an existing broad hierarchy to enable competing states to achieve a functional bargain and 'freeze' sovereignty claims, whilst at the same time institutionalizing and reinforcing the legitimacy of science in maintaining international inequalities."[52]

Yao concludes that

> "To understand the ATS framework only as a neutral collaboration between scientists working for the benefit of humankind would be to ignore the deeply political implications of Antarctic science as a legitimating mechanism for global order."[53]

However, while relevant, critical and insightful, and while these criticisms may sound a cautionary note, they make no suggestion that science should be supplanted from its various roles in the ATS. Indeed, the opposite, it is argued, should be the case. Science, subject to the cautionary notes suggested above, should be centralised within Antarctic policy and decision-making, following the "best evidence" principle which holds that the best evidence should always be relied upon, where the term "best evidence" is understood to mean evidence which suggests that no better evidence is available. This means that if caution is adopted, credible and relevant science can and should be relied upon.

No definition of "scientific research" or "science" is articulated in the ATS however, and while this may be perceived as a deficiency and as much as a definition may be helpful in allaying some of the concerns voiced above, SCAR, the Committee for Environmental Protection (CEP) and the CCMLAR Scientific Committee, together with various national and international scientific bodies have delineated what constitutes scientific research, which is not to say of course, that all sound scientifically supported proposals are politically supported or that there is always agreement on scientific issues.[54]

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[51] Ibid.
[52] Yao, J "An international hierarchy of science: conquest, cooperation, and the 1959 Antarctic Treaty System" *European Journal of International Relations* 2021 27 (4) 995-1019 pg. 995.
[53] Ibid, pg. 1014.
[54] See *Whaling in the Antarctic, Australia and New Zealand (intervening) v Japan*, Judgment, ICJ GL No 148, ICGJ 471 (ICJ 2014), 31st March 2014, International Court of Justice [ICJ], for an example of a fundamental disagreement over what constitutes scientific research.

Science will therefore continue to play a crucial role, or indeed, several crucial roles, in Antarctic environmental protection, in informing policymaking and hopefully an increasingly important role in informing Antarctic decision-making.[55]

2.4 Territorial Claims

After the "heroic age" of discovery, nations turned their attention to claiming sovereignty over various parts of the continent, and some refer to this period as "the Imperialist Era".[56] Despite the number of countries that had claimed land, no human presence was ever well enough established to lend credibility to any of these.

By the time of the IGY/IPY, Britain, Chile, Argentina, Norway, France, Australia and New Zealand had all made claims to territory in Antarctica[57] over which they believe they have sovereignty.[58] Today these countries still persist in these claims. The basis for the claims differ;[59] some are based on discovery, proximity, continental contiguity, transfer from another claimant,[60] a Papal bull recognising a regional treaty concluded before the existence of the continent was established, capitalist speculation or pure imperialism. The times at which the claims were made also differ; some claims overlap, some claimants do not recognise other claimant's claims and other than the actual claimants themselves, no other country recognises the legitimacy of any of these claims. In fact, only five claimants recognise each other's claims.[61] Nevertheless, the countries that have made these claims

[55] For more on the role of science in Antarctic policy development and decision-making see: Buchheister, G "Antarctic science-policy interface: a way forward" *The Polar Journal* 2021 11, 231–233; McIvor, E 2020. "The Committee for Environmental Protection and the important role of science in international efforts to protect the Antarctic environment" *Antarctic Affairs* 2020 7 13–28, Hughes, K, Constable, A, Frenot, Y, Lopez-Martinez, J, McIvor, E, Njastad, B, *et al* "Antarctic environmental protection: strengthening the links between science and governance" *Environmental Science and Policy* 2018 83 86–95; Dudeney, JR & Walton, DWH "Leadership in politics and science within the Antarctic Treaty" *Polar Research* 2012 31 11075, Jabour, J "So what? Using scientific knowledge to inform Antarctic decision-making" *Taumauri: Waikato Law Review* 2019 27 17-30; Berkman, P, Lang, M, Walton, D, & Young, O "Science diplomacy: Antarctica, science, and the governance of international spaces" Washington, Smithsonian Institution Scholarly Press, 2011; Vanstappen, N "Inclusive and evidence-based decision-making in CCAMLR: a basis for ensuring compliance?" Working Paper No. 195, December 2017, KU Leuven, Leuven Centre for Global Governance Studies, pgs. 4-34; Heap, JA The role of scientific advice for the decision-making process in the Antarctic Treaty System, in Wolfrum, R. (ed.) Antarctic challenge III. Berlin: Duncker& Humblot, 1988 and, more generally, Weichselgartner, J & Kasperson, R "Barriers in the science-policy-practice interface: toward a knowledge-action-system in global environmental change research" *Global Environmental Change* 2010 20 266–277 and Wesselink, A, Buchanan, K, Georgiadou, Y & Turnhout, E, "Technical knowledge, discursive spaces and politics at the science–policy interface" *Environmental Science & Policy* 2013 30 1–9.

[56] Elliott LM, International Environmental Politics: Protecting the Antarctic, Dordrecht, Springer 1994, pg. 25.

[57] "… the United Kingdom (1908), Chile (1940), France (1924), Norway (1939), and Argentina (1927–1957) on … New Zealand and Australia … in 1923 and 1933, respectively". Triggs op cit note 39 pgs. 40 – 41.

[58] The USA and Russia (the USSR at the time) reserved their right to make claims to Antarctic territory, but did not actually do so.

[59] For a good, insightful description see Conforti B, "Territorial Claims in Antarctica: A Modern Way to Deal with an Old Problem" Cornell International Law Journal 1986 19 (2), Article 5. http://scholarship.law.cornell.edu/cilj/vol19/iss2/5. May 2020.

[60] "…the traditional legal grounds of discovery, effective occupation, and geographical proximity … the transfer of claimant status." Triggs op cit note 39 pg. 41.

[61] "… only five, Australia, New Zealand, Norway, France, and the United Kingdom, mutually recognise the claims of the others." Triggs op cit note 39 pg. 41.

cling to them tenaciously and go to great, often absurd, lengths, reminiscent of the heyday of rampant colonialism, to symbolically reinforce their claims.[62]

2.5 History of the Antarctic Treaty

The states claiming territory in Antarctica were aware that their claims were tenuous. No other countries recognised their legitimacy; they had in fact become a "mutual recognition society".[63] An unsatisfactory status quo had become evident to the parties interested in and involved with Antarctica, and the claimant states knew that a solution was needed before their territorial claims on the continent became further out of reach.

In 1948 the USA suggested a multiple condominium[64] of ownership, but the claimant states either ignored or rejected this for a variety of reasons.[65] That the Antarctic should not be internationalised was agreed by all, however, even though the common defence against criticisms of the ATS is that the ATS is,[66] truly "international". The USA was not the only country offering a solution. Several international organisations also put forward proposals. UNESCO suggested creating an International Antarctic Research Institute that focused on scientific research in Antarctica, possibly under the control of the UN,[67] but this was not well received. India argued that any claims to sovereignty were inherently colonial in nature,[68] and referred the issue of Antarctic to the United Nations General Assembly, twice,[69] from

[62] For example, flying pregnant women to Antarctica so that children can be born there and become "Antarctic citizens" of the claimant country, planting flags, removing the flags of others, issuing stamps, creating organisations, establishing communities complete with schools and a scout troop, building, maintaining and staffing churches, naming every geographical feature, (glacier, island, mountain, ice sheet, etc.) with symbolically nationalistic names, and of course, by building scientific bases, known as stations, both summer only and permanent, across the continent, often alongside those of a competing claimant. On 7 January 1978, at Esperanza base, Argentinian Silvia Morella de Palma gave birth to the first child born on the Antarctic continent. See Dodds, KJ "Settling and Unsettling Antarctica". Signs 2009 34 (3) pgs. 505–509.

[63] Britain, New Zealand and Australia recognise each other's claims, which is hardly surprising given that all three were engineered by Britain and two were then ceded to New Zealand and Australia. All three recognize France's claim, given that it is made on a similar basis to their own, and thus they are unable to refute it without refuting the basis for their own, and all three recognize Norway's claim, also unsurprising given that it was negotiated with Britain. No other country recognizes these, and these 5 claimants do not recognize any other country's claim.

[64] Elliott op cit note 55 pg. 28.

[65] "The United States … proposed a condominium and a United Nations Trusteeship in the region in 1948. Although the proposals were in accordance to international society identities and practices, they were rejected by claiming states, who did not want to waive their sovereignty rights." Sampaio DP, "The Antarctic exception: how science and environmental protection provided alternative authority deployment and territoriality in Antarctica" *Australian Journal of Maritime & Ocean Affairs* 2019 11 (2) 107-119.

[66] Elliott op cit note 55 pg. 29.

[67] Hanessian J, "The Antarctic Treaty 1959." The International and Comparative Law Quarterly, 1960 9 (3), 436–480, pg. 449. The proposal was made by Sir Julian Huxley, the first Director of UNESCO (and brother of the novelist Aldous Huxley).

[68] See Chaturvedi S, "India and Antarctica. Towards Post-colonial Engagement?" in Brady A-M, (ed.) The Emerging Politics of Antarctica, Oxfordshire: Routledge, 2013.

[69] In 1956 and in 1957. Triggs op cit note 39 pg. 41. U.N Doc. A/3118/Add 1 13 September 1956 and U.N. Doc. A/3852, 15 July 1958 respectively. Bastmeijer CJ, & Bastmeijer K, "The Antarctic Environmental Protocol and its Domestic Legal Implementation" Volume 65 of International environmental law and policy series, Kluwer Law International B.V., 2003 pg. 7. See also Chaturvedi S, "Rise and Decline of Antarctica in Nehru's Geopolitical Vision: Challenges and Opportunities of the 1950s." *The Polar Journal* 2013 3 (2) 301–315.

the viewpoint that broader participation, in the form of a United Nations Trust Territory, was necessary.

Chile proposed that discussions on the issue of sovereignty be postponed for 5 years, to allow time for scientific cooperation.[70] This was in response to the USA's suggestion that a condominium of ownership be considered, and it would set the tone for the future of Antarctica. Called the Escudero Declaration,[71] underpinning this moratorium was the notion of scientific cooperation which had characterised the IGY/IPY and which now provided a seemingly small and temporary solution, that would later become a mainstay of the AT.

A number of factors influenced the claimant parties to be, if not fearful of the alternatives,[72] certainly open to negotiations towards an Antarctic agreement. These influencing factors included, inter alia; (i) the success of the IGY/IPY, built in part on ignoring sovereignty claims, (ii) the unresolved issue of competing sovereignty claims, (iii) the fact that sovereignty claims were increasingly coming under threat, (iv) the backdrop of the Cold War, (v) the prospect of the USA itself considering making a claim[73] to Antarctic territory and (vi) the now permanent presence, as a result of the IGY/IPY, of the USSR in Antarctica. All the parties were thus increasingly motivated to reach a formal agreement.

2.6 Negotiation and formulation

In February 1958, the USA invited the countries with active scientific interests in Antarctica (as part of the IGY/IPY[74]) to give thought to creating an international regime for the continent."[75]

Following this, in May 1958, Eisenhower issued an invitation to the 11 other countries then scientifically active in Antarctica[76] to attend a conference towards negotiating a treaty to establish an international regime for Antarctica.[77] These countries all reacted positively

[70] Elliott op cit note 55 pg. 29 and Sampaio op cit note 64.
[71] Julio Escudero was Professor of International Law at the University of Chile. He was instrumental in delineating Chile's claim to Antarctica in 1940, but he also suggested, in 1948 a moratorium on the sovereignty dispute to promote science, allow free access to Antarctica and ensure the political neutrality of expeditions, an idea described by Abbink as being "ahead of its time". Abbink PA, Antarctic Policymaking and Science in the Netherlands, Belgium and Germany (1957-1990) Volume 6 of Circumpolar studies, Barkhuis, 2009, pg. 26-27. See also Triggs op cit note 39 where she discusses Escudero's proposal as originating in 1939. He also signed the Antarctic Treaty in Washington in 1959 on behalf of Chile. Chile has named an Antarctic Research base after Professor Escudero.
[72] "The crucial stimulus was … fear. Each government had its own scenario of the chaos it foresaw if the Treaty was not successfully concluded." John Heap, head of the British Foreign and Commonwealth Office's Polar Regions section. Quoted by Elliott op cit note 55 pg. 31. Originally published in Heap J, "Meeting on Antarctic Mineral Resources, Wellington, New Zealand, 17 – 28 January 1983" *Polar Record* 1983 21 (134) pg. 501.
[73] The USA had not made a claim but had reserved the right to do so.
[74] Dobransky S, "The Return of Antarctica and the Origins and Future of Potential Conflict. The Eisenhower Administration's Formulation of U.S. Antarctic Policy, 1953-1959" American Diplomacy 2014, pg.16/25.
[75] Ibid.
[76] Britain, France, New Zealand, Australia, Norway, Argentine, Chile, South Africa, Belgium, the USSR and Japan.
[77] Elliott op cit note 55 pg. 31.

and, in a series of meetings[78] over 18 months, the countries negotiated draft terms of the proposed treaty, many of them in secret.[79] The claimants, according to Elliott, wanted to "contain the influence of the superpowers and the three non-claimant IGY states."[80] The countries were also "motivated by self-interest"[81] and, also adroitly summarised by Elliott, "the realisation that their interests … could *only* be protected by a treaty",[82] a "shared interest in avoiding conflict"[83] (because it would be expensive and the outcome uncertain), the low chances of success in a "legal settlement of title"[84] and the "potential erosion of their influence in the Antarctic."[85] In October 1959, the parties met again in Washington and finalised the terms. The Antarctic Treaty was signed on the 1st December that year, and took effect on the 23rd of June 1961.[86]

2.7 Components

The creation of the Antarctic Treaty (AT) happened "breathtakingly fast" by modern standards.[87] It is often regarded as a model of brevity and succinctness,[88] but the 12 countries that negotiated the treaty into existence were incentivised by self-interest and increasing pressure. Joyner notes,

> "The AT represents a landmark in political diplomacy, an entire continent is reserved only for peaceful purposes, underscored by the guarantee of non-politicized freedom of scientific investigation."[89]

With the political context often overlooked, the focus since has largely emphasised the strengths and achievements of the AT. How it achieves this, as noted by Elliott, is that the Antarctic Treaty "reflects three fundamental principles … the compromise on sovereignty …

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[78] There were 60 such meetings. Rothwell DR, The Polar Regions and the Development of International Law. Cambridge University Press, Cambridge, 1996, pg. 69.
[79] Dobransky points out that "the decision-making process's relative secrecy prevented a large amount of political conflict, pressure, and emotional and ideological rhetoric, which would have engulfed the formulation process if the Antarctic issue was placed prominently on the Congressional and public agendas during the height of the Cold War." Dobransky op cit note 73.
[80] Elliott op cit note 55 pg. 32.
[81] Ibid.
[82] Ibid.
[83] Ibid.
[84] Ibid.
[85] Ibid.
[86] Poland acceded to the treaty before it entered into force, so that on the 23rd June 1961 the Antarctic Treaty actually entered into force with 13 parties. Rothwell op cit note 77 pg. 71. Poland was not, however a "consultative party at this stage as it was not conducting extensive scientific research. However, it was the first country, after the 12 founding countries, to achieve this status in 1977.
[87] Triggs op cit note 39 pg. 42.
[88] "Disarmingly simple" Triggs op cit note 42 pg. 39; "Elegant in its simplicity" Berkman PA, "Common Interests in the International space of Antarctica" in 50 Years on: Invited reflections on the Antarctic Treaty, Cambridge, Cambridge University Press, 2010; "Unique in history" Gould L, British Antarctic Survey, "Antarctic Treaty 50th Anniversary - 2009," http://www.antarctica.ac.uk/about_antarctica/geopolitical/treaty/anniversary. May 2020.
[89] Joyner CC, & Chopra SK, (eds.) The Antarctic Legal Regime, Martinus Nijhoff, Dordrecht, 1988, pg. 3.

avoiding conflict … and scientific research and cooperation."[90] The Antarctic Treaty is constructed on this foundation, and the effects of these principles are three-fold: they side-lined the conflict over sovereignty, demilitarised the continent and established science as the primary purpose for which Antarctica was reserved.[91] A different view emerges from Grob, who notes that the three[92] main goals of the Antarctic Treaty were "to promote peace in Antarctica … ensure that Antarctica would not be used for military activity, [and] to encourage scientific research in Antarctica".[93]

Nonetheless, one of the representatives at the negotiation of the Antarctic Treaty[94] noted that some

> "might question the right of any single group of countries even to give the appearance of legislating on a matter of world-wide concern, [but the] Treaty is, in fact, to be almost entirely a self-denying ordinance on the part of the signatories, who will derive from it virtually no privileges but only obligations."[95]

Although it is true that it did impose obligations on the treaty parties, it would be disingenuous to claim that the parties derived no benefit, in that they gained much precisely because they lost nothing.[96] Regardless, it was a significant achievement that the parties were able to agree on the terms and principles, and produce a treaty effectively designed to regulate an entire continent.

2.8 The Treaty structure

2.8.1 Introduction

The Antarctic Treaty is a brief document, consisting of a Preamble which summarises the reason why the Treaty was necessary,[97] and 14 Articles that set out the primary principles

[90] Elliott op cit note 55 pg. 35.
[91] Elliott sees "scientific research and cooperation as the explicit face of political cooperation on the continent." Elliott op cit note 55 pg. 36.
[92] Brahms sees four main principles: "peaceful purposes … freedom of scientific investigation … [the] continent remains nuclear free, [and] inspection … to ensure the observance of the provisions of the AT." Brahms L, An Examination of the ATS: Past, Present, and Future, 2008 Final Draft. This view rather obscures the underlying political tensions and insecurities of the negotiating parties and also tends to separate founding principles and the means by which the founding principles are enforced.
[93] Grob op cit note 12 pg. 468.
[94] Sir Esler Dening, the UK representative.
[95] Quoted in Hayton RD, "The Antarctic Settlement of 1959" *American Journal of International Law* 1960 54 356.
[96] The treaty parties did not lose control of the management of Antarctica, and the privileges associated therewith, thereby gaining tremendously by the advent of the AT.
[97] Primarily to prevent escalating tensions among claimants, and retain their control and influence over Antarctica in the face of increasing global awareness and interest in Antarctica.

and the mechanisms by which these are to be achieved. Both the Preamble and the Articles were remarkably innovative at the time.[98]

2.8.2 The Preamble

The Preamble summarises the motivation for the creation of the Treaty as well as its purpose. It notes that it was motivated by the need to ensure that Antarctica shall "not become the scene or object of international discord," and then sets out that the Treaty is designed to ensure that "Antarctica shall continue for ever to be used exclusively for peaceful purposes", that "freedom of scientific investigation in Antarctica … accords with the interests of science and the progress of all mankind" and that "the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations."[99]

2.8.3 The Articles

Articles I, III, IV, V and VI, are the core principles which establish the entire continental regime.[100] They will be briefly described and discussed below. The remaining 9 articles serve the main function of ensuring that the core principles are protected and maintained. They reflect the core principles and are also innovative in the manner in which they go about protecting these principles.

ARTICLE I

[98] Although Elliott notes that "very little in the Treaty was new. For the most part it codified existing arrangements." Elliott op cit note 55 pg. 35. Nonetheless, the existing arrangements were unique and thus the codification thereof represented a unique contribution to international law. Eisenhower, in his letter of the 15th February 1960, to the US Senate, presenting the treaty for Senate's consent to ratification, describes it as "a unique and historic treaty". https://www.gc.noaa.gov/documents/1959-Antarctic-treaty.pdf. June 2020.

[99] Recognizing that it is in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;
Acknowledging the substantial contributions to scientific knowledge resulting from international cooperation in scientific investigation in Antarctica;
Convinced that the establishment of a firm foundation for the continuation and development of such cooperation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind;
Convinced also that a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations. Preamble to the Antarctic Treaty.

[100] It is perfectly reasonable to argue that Article IV, which suspends all territorial claims, is not substantive at all, but is procedural in the sense that it merely provides the process or mechanism whereby the main objectives of the treaty – peace, science and a nuclear free zone, can be achieved. If this argument is accepted, then the same can be said for the agreed demilitarisation of Antarctica – it is a means to an end, not an end in itself. However, this thesis has elected to regard both these Articles as substantive, because, in the opinion of the author, both are defining characteristics of the Antarctic Treaty and a "moratorium" on sovereignty issues and the demilitarisation of an entire continent are in themselves extremely significant, *sui generis*, substantive achievements, whether or not they facilitate other, loftier, ideals.

Article I sets out the first core principle, namely that Antarctica be used for peaceful purposes only. It also establishes a prohibition on any military measures, subject to the use of military personnel and equipment for scientific or other peaceful purposes, which in practical terms, includes supply and rescue operations.[101]

ARTICLE II

Article II sets out the second important core principle, namely freedom of scientific investigation and cooperation. The success of the recent IGY/IPY[102] in many ways provided the blueprint for international co-operation in Antarctica. The use of science to create common ground around which to build a system of Antarctic governance was a remarkable achievement given that the Treaty was negotiated between parties that were ideologically and militarily opposed, and against the backdrop of the Cold War.

ARTICLE III

Article III is the first of the supporting articles. The purpose of Paragraph 1 is to "promote" the principle of scientific freedom and the principle of "international cooperation in scientific investigation". It does this by providing for the open exchange of scientific information. This includes plans for proposed expeditions, research, the exchange of scientific personnel, and the exchange of the scientific findings and data generated by these scientific activities.[103] The process of exchange works as a cooperative mechanism, a useful resource sharing mechanism, and as an indirect check on scientific activities by other parties. Agreement on the exchange of scientific observations and data sharing was remarkable as it was in direct contradiction to the milieu in which it was negotiated – a milieu of secrecy, espionage, and competition that characterised the space race and arms race.

The second paragraph specifically refers to working with international scientific organisations, which is unsurprising given the positive influence on the formation of the Treaty by the 1957 – 1958 IGY/IPY. The International Council of Scientific Unions (ICSU), responsible for the IGY/IPY, had also formed a scientific committee to oversee scientific

[101] Although the terms "peaceful purposes" and "military measures" are not defined, the practice has been to ensure that no military personnel (in a military capacity) or equipment is landed in Antarctica. However, military, naval or air-force logistical support is permitted in a support capacity. Thus, naval vessels and military aircraft are frequently used to supply Antarctic stations and mount rescue operations.

[102] Technically the IGY/IPY had been scheduled to end at the end of December 1958, but it was so successful that several countries agreed to extended aspects of it by an additional year, to the end of December 1959. This "extension was known … as the International Geophysical Cooperation 1959, or IGC-59." Doyle SE, & Skoog AI, (eds.) The International Geophysical Year, *International Astronautical Federation*, Paris, 2012, pg. 12. http://iislwebo.wwwnlss1.a2hosted.com/wp-content/uploads/2015/03/2012_IGY.pdf. June 2020. Thus, the Antarctic Treaty was, technically, both negotiated and signed against the backdrop of the IGY/IPY.

[103] This article was remarkably innovative and owes a debt to spirit of scientific cooperation established during the IGY/IPY.

research in Antarctica after the end of the IGY/IPY.[104] This committee, known as the Scientific Committee on Antarctic Research (SCAR)[105] first met in 1958. SCAR is responsible for "coordinating cooperative scientific research and exchange of scientific information" and thus functions as the "de facto science secretariat under the Treaty."[106]

ARTICLE IV

Article IV addresses the thorny issue of sovereignty claims, another of the core principles. Despite being one of the most unique and innovative articles in the Treaty, it is also one of the most controversial. Article IV has been described variously as "the glue that binds the Antarctic Treaty and its interlinked measures, decisions, and agreements,"[107] "deliberately obscure",[108] "a purgatory of ambiguity,"[109] and as "semantic ingenuity".[110] It is all of these things. However, as Triggs elegantly summarises;

> "… few legal clauses have proved to be as successful in international dispute resolution as Article IV. Few such clauses have formed the foundation for so extensive a superstructure of interlinked treaties for the governance of so large a part of the world…"[111]

Article IV removes from consideration any debate or discussion of sovereignty claims over Antarctica. This "ban" extends to those making claims,[112] those who have not made claims but have reserved the right to do so,[113] those who have not made any

[104] "The Bureau of ICSU invited the twelve nations actively engaged in Antarctic research to nominate a delegate each to a Special Committee on Antarctic Research (SCAR)." https://www.scar.org/about-us/history/. June 2020. The ICSU also invited delegates from the International Union of Geodesy and Geophysics (IUGG), the International Geographical Union (IGU), the International Union of Biological Sciences (IUBS), the International Union of Pure and Applied Physics (IUPAP) and the Union Radio Scientific Internationale (URSI). https://www.scar.org/about-us/history/. June 2020.
[105] Originally named the Special Committee on Antarctic research it was subsequently renamed the Scientific Committee on Antarctic Research (SCAR).
[106] Rothwell op cit note 77. pg 74-75.
[107] Triggs op cit note 39 pg. 39.
[108] Ibid pg. 43.
[109] Marcoux M, "Natural Resource Jurisdiction on the Antarctic Continental Margin," *Virginia Journal of International Law* 1971 11 379.
[110] Beck PJ, "Who Owns Antarctica? Governing and Managing the Last Continent", IBRU, 1994, pg. 11. Although "purgatory of ambiguity is the most accurate and semantically correct description, the altogether less dramatic term "bifocalism" is used to denote the situation inherent in Article IV whereby different parties can interpret the clauses in ways that are consistent with their differing viewpoints. See Beck PJ, "The Antarctic Resource Conventions Implemented: consequences for the sovereignty issue" in Jorgensen-Dahl A, (ed.), The 1959 Antarctic Treaty System in World Politics, Macmillan, Hampshire, 1991, pg. 242.
[111] Triggs op cit note 39 pg. 43. This is echoed by Scott who states that, "This … has facilitated some of the most extensive, productive, and long-term cooperation between ideologically opposed states within any regional arrangement." Scott KN, "Managing Sovereignty and Jurisdictional Disputes in the Antarctic: The Next Fifty Years" Yearbook of International Environmental Law 2010 20 (1) 3-40, pg. 12.
[112] Argentina, Australia, Britain, Chile, France, New Zealand, Norway.
[113] USA, Russia.

claims at all,[114] those recognising the claims of other claimants, and those who do not recognise them.[115]

This means that all existing claims remain, but cannot be enforced, used or expanded. Not only may no actions designed to reinforce or expand these claims be taken but also, no actions that are taken are to be construed as reinforcing or expanding these claims.[116]

This applies to all other parties[117] as well. Their attitudes to these claims are also frozen, which also means that they may not take any action designed to acknowledge, diminish or refute these claims, and any action that they may take cannot be construed as a recognition, diminution or repudiation of these claims.

It also freezes the position of those who have not made any claims, but who reserve the right to do so.[118] These parties (the USA and the USSR, as it then was) may not make any claims,[119] but their right to do so is preserved in the same manner as the rights of parties to dispute claims.

The claimant states, Britain, France, New Zealand, Australia, Norway, Argentina and Chile, are thus free to continue to recognise or/ repudiate, as the case may be, each other's claims. The non-claimant states, Belgium, South Africa and Japan, are free to continue to not recognise the claims of the claimant states. Russia and the USA are free to continue to not recognise the claims of the claimant states, and retain the right to make claims – as long as none of this, be it in the form of action or policy, is transplanted onto the Antarctic continent. Thus, Article IV is remarkable[120] both for what it does not do – it is not a renunciation of "previously asserted rights of or claims to territorial sovereignty"[121] and for what it does do – which is to side-line the almost insurmountable stumbling block of competing territorial sovereignty claims so thoroughly that they no longer present an obstacle to Antarctic governance.[122] Triggs summarises Article IV thus;

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[114] Belgium, Japan, South Africa.
[115] Article IV thus "freezes" all sovereignty claims or, places them "on ice". Scott deftly, and to borrow a legal phrase, describes paragraph 1 of Article IV as "a wide-ranging and remarkably effective 'without prejudice clause.'" Scott op cit note 110 pg. 11.
[116] Scott, again, places the effect of the second paragraph of Article IV in a legal context; "the second paragraph … expands the application of the 'without prejudice clause' to acts and activities taking place post- 1959." Scott op cit note 110 pg. 11.
[117] Both non-claimants and fellow claimants.
[118] "…the reference to 'basis of claim' … protects the position of any potential claimant states." Scott op cit note 110 pg. 11.
[119] "Article IV(2) prohibits any treaty party from making a new claim or enlarging an existing claim to territorial sovereignty in Antarctica while the treaty is in force." Scott op cit note 110 pg. 11.
[120] "Article IV of the Antarctic Treaty provides a masterful exemplar and indeed demonstration of what can be achieved by constructive ambiguity." Scott op cit note 110 pg. 11.
[121] Article IV.
[122] "To paraphrase, the treaty should not be interpreted as a renunciation of previously asserted rights or basis of a claim, nor is the treaty to prejudice the position of any party as regards its recognition or nonrecognition of any other state's right of claim or basis of a claim." Triggs op cit note 39 pg. 43.

> "To paraphrase, the treaty should not be interpreted as a renunciation of previously asserted rights or basis of a claim, nor is the treaty to prejudice the position of any party as regards its recognition or nonrecognition of any other state's right of claim or basis of a claim. The words "any basis of claim" in paragraph 1(b) may protect the prior interests of non-claimant states such as the United States and the Soviet Union, which had not previously sought to assert a claim but which might do so in the future. The words "or those of its nationals" will cover claims made on behalf of, but not ratified by, the state concerned. In this way, the potential claimants may protect their "rights" to make a claim in the future. Non-claimants may also be protected by Article IV, paragraph 1(c), which provides that a Contracting Party does not prejudice its position as "regards its recognition or non-recognition of the rights or claims of other states." This provision also protects claimants who have already recognised the Antarctic sovereignty of other states. Claimants are further protected by Article IV, paragraph 1(a), which provides that the treaty is not a renunciation of "previously asserted rights or claims to territorial sovereignty." Similarly, Article IV, paragraph 1(b), provides that "any basis of claim" that a state may have is not to be reduced or diminished by the treaty."[123]

ARTICLE V

This article is an expansion of the first core principle, that Antarctica be preserved for peaceful purposes. It also prohibits nuclear explosions and the disposal of nuclear waste in Antarctica. Through this article, the world's first nuclear-weapon-free zone[124] was created almost a decade before the Treaty on the Non-Proliferation of Nuclear Weapons entered into force,[125] and more than a decade before the term "nuclear-weapon-free zone" had even been defined.[126]

ARTICLE VI

Article VI defines the geographical Treaty area, namely "the area south of 60º South Latitude, including all ice shelves".[127] Everything south of 60° South falls within the

[123] Ibid.
[124] United Nations Study on Antarctica, UNGA, A/39/583 (Part I), 31 October 1984, pg. 44 states; "'The Antarctic Treaty represented the only post-war international agreement for the complete demilitarisation of a sizeable geographical region ... the Antarctic continent became a forerunner of nuclear weapon-free zones."
[125] 1970.
[126] The term was first formally defined in UN General Resolution 3472 B (XXX) of 11 December 1975, though it was used in UN General Resolution 3261 F (XXIX) of 9 December 1974 which commissioned a comprehensive study of the question of nuclear-weapon-free zones. Antarctica does not, however, fall within the UN definition of a nuclear-weapon-free zone, as the UN resolution defines such as "any zone recognized as such by the General Assembly of the United Nations which any group of States, [that] in the free exercise of their sovereignty has established by virtue of a treaty … whereby the total absence of nuclear weapons … is defined." UN General Resolution 3472 B (XXX) 1975. The United Nations does not recognize the sovereignty of any nation over Antarctica.
[127] Article VI of the Antarctic Treaty.

ambit of the Treaty, and it is an area within which the actual continental mainland comfortably fits. However, the definition chosen is significant in several respects.[128]

Although it relies on a precise and defined line of latitude, it does not, in any way, reflect the continent's unique parameters. Antarctica's characteristic and fascinating aspects and impact encompass a much broader ambit, and are inextricably linked with Antarctica's Southern Ocean that lies well north of the 60° South line of latitude. Subsequent treaties concluded under the auspices of the Antarctic Treaty have deviated from this line of latitude, and have adopted more flexible, eco-systemic definitions.[129]

Resulting from this rather limiting definition, several islands, while not Antarctic or peri-Antarctic, but which fall within the broader sub-Antarctic region, or the Antarctic eco-systemic region or even on the Antarctic continental shelf, are excluded from the treaty. These islands are the subject of sovereignty claims, but Article IV does not apply to them. Ironically, most of these sovereignty claims are settled and internationally recognised. The obvious exception is the Falkland Islands/Las Malvinas conflict. While not technically geographically sub-Antarctic, this sovereignty dispute does spill over into South Georgia and the South Sandwich Islands. These are north of the sub-Antarctic Front, but are inextricably linked with the sub-Antarctic islands and the broader, regional ecosystem.[130]

Thirdly, several of the islands that fall within the Antarctic Treaty treaty area have sovereignty claims made over them that are often conflicting, and are also frozen, for example the South Shetland Islands, the South Orkneys and Peter I Island – in contrast with claims to islands only marginally further north.

Fourthly, south of 60° South, the high seas surrounding Antarctica are excluded from the operation of the Treaty in so far as the rights of states under international law with regard to the high seas are concerned. Technically the Southern Ocean south of 60° South falls within the Antarctic Treaty area and is nominally thus subject to the AT, but with a reservation of rights pertaining to the High Seas which effectively remove it from the control of the AT.[131]

Fifthly, the definition specifically includes Antarctica's ice shelves. "It was important," Rothwell writes, "for some effort to be made to recognise specifically the application

[128] It also caused "considerable disagreement" during the negotiations of the Treaty, particularly with regard to the islands that fell within the treaty area. Rothwell op cit note 77 pg. 80.
[129] CCAMLR, for example, applies not to Antarctica, but to the Southern Ocean marine ecosystem.
[130] Several Islands north of the Subantarctic Front fall into SCAR's area of interest including, Ile Amsterdam, Ile St Paul, Macquarie Island and Gough Island. https://www.scar.org/about-us/history/. June 2020.
[131] UNCLOS Articles 87 and 88 (similarly to the AT) reserve the High Seas for peaceful purposes, although this is broader than 'scientific' purposes, and includes navigation, overflight, fishing, the laying of submarine cables or pipelines, freedom to conduct marine scientific research and even constructing artificial islands or installations.

of the Treaty to formations which cannot easily be classified as either land or water."[132] These ice shelves, as previously discussed, are hugely variable, ranging from as much as 19 million square kilometres in winter to as little as 3 million square kilometres in summer. Their inclusion "recognises the sui generis character of the ice formations" and is an attempt to forestall any issues that might arise with regard to the application of the Treaty.[133]

Finally, as much as the negotiators of the Treaty were pragmatic at the time, they could not know the myriad of unanticipated events and circumstances that would in time develop (e.g. bioprospecting). Thus, the definition of the Treaty must be continually interpreted and reinterpreted, as these unforeseen occurrences arise.

ARTICLE VII

Article VII, another innovative contribution, makes provision for the appointment of designated observers from any contracting party who are entitled to free and unfettered access to all areas of Antarctica, which includes all "stations, installations and equipment … [and] all ships and aircraft."[134] This provision is so important that some regard it as a foundational principle.[135] It acts as a guarantee for Articles I, II, III and, to a lesser extent, V, and it creates a system for the sharing of information about expeditions, stations, military personnel and equipment.[136]

ARTICLE VIII

Article VIII tackles the difficult and unresolved question of jurisdiction which was a strongly contested topic during the negotiations.[137] It only partially addresses the issue and the result is, according to Blum, "a disaster"[138] which "remains unresolved",[139] although Van der Essen does not believe that it ever intended to provide a comprehensive solution but was

[132] Rothwell op cit note 77 pgs. 80-81.
[133] Rothwell op cit note 77 pg. 81. Rothwell, also at pg. 81, also notes that no definition of "ice shelf" is provided and so there are differing interpretations as to what can be regarded as an ice shelf, as well as whether or not the sea beneath the ice is included or whether it forms part of the high seas and is thus not subject to the AT.
[134] Article VII.
[135] "The final principle established by the Antarctic Treaty involves the right of all contracting parties to the treaty 'to designate observers to carry out … inspection[s].'" Brahms op cit note 91 pg. 8, quoting Scott KN, "Regulating Subglacial Aquatic Research under the Antarctic Treaty System" *New Zealand Universities Law Review* 2008 23 (1) 134-154, pg. 140.
[136] Brahms, correctly, states that, "The Treaty's requirements regarding international cooperation among the contracting parties are very extensive." Brahms op cit note 91 pg. 8.
[137] Blum states that this was "Because of "deep division" at the conference over methods to apportion jurisdiction." Blum J, "The Deep Freeze: Torts, Choice of Law, and the Antarctic Treaty Regime" *Emory International Law Review* 1994 8, pg. 675.
[138] Ibid pg. 674.
[139] Ibid pg. 668. Blum describes Antarctica as a "jurisdictional no-man's land," though he attributes the phrase to Robert Reinhold, "In International Law, Antarctica is a Twilight Zone", New York Times, March 14, 1982, § 4, at 9.

included simply to ensure immunity for observers.[140] It provides that observers, scientific personnel and accompanying staff are subject to the jurisdiction of the contracting party of which they are nationals. This does not apply to persons who are neither observers and scientists nor accompanying staff, (tourists for example)[141] and to persons who are not nationals of contracting parties.[142] With sovereignty claims on hold and no legal system in place in Antarctica, the normal practice of applying the legal system where a claim or dispute arises, or over the actors involved therein, or the system of the state in whose territory the event occurs or where the actors involved are located, is not possible. These problems were recognised at the time and so the second part of Article VIII specifically imposes an obligation on the parties to meet to formulate measures regarding, inter alia, "questions relating to the exercise of jurisdiction in Antarctica".[143] Pending the formulation of measures relating to jurisdiction, Article VIII (2) goes on to require the parties to meet on an ad hoc basis if a "dispute with regard to the exercise of jurisdiction" arises. This is the only mechanism currently in place, and they have yet to do so. With the expansion of the Antarctic Treaty to over 30 consultative parties, jurisdictional problems have the potential to become a major hurdle to the efficient functioning of the ATS, both in the increased possibility of such disputes arising and in the increased difficulty of convening ad hoc meetings, and reaching a resolution by consensus at such meetings.

ARTICLE IX

Article IX establishes the administrative framework for the functioning of the AT. It establishes the regime of regular meetings of the contracting parties and it provides an open list of matters of common interest for the parties to consider, to make decisions on and to make recommendations and formulate measures in order to further the objectives of the Treaty.[144]

It also specifies the minimum standard for participation at these meetings, namely that that a contracting party "demonstrates its interest in Antarctica by conducting substantial scientific research activity there". This is also the standard for any party wishing to achieve consultative party status. What constitutes "conducting substantial

[140] He describes the issue of comprehensive jurisdiction as "basically unanswerable under the terms of Article IV." He notes too, that the word "immunity" was eventually not used so as not to imply a sovereignty which observers would be immune from. Van der Essen A, "The origins of the Antarctic System" in Francioni F, & Scovazzi S, (eds.) International Law for Antarctica, Kluwer Law International, Netherlands, 1996, pg. 23. It is worth noting that Van der Essen was one of Belgium's treaty negotiators and his insights are thus first-hand. Abbink op cit note 70 pg. 65. Van der Essen has a peak in the Belgica Mountains, Mount van der Essen, in Dronning Maud Land named after him.
[141] Blum op cit note 136 pg. 675.
[142] "Questions remain as to what law operates and what courts have jurisdiction, especially over criminal and civil offences committed by a national of one signatory State against a national of another signatory State, or indeed, against a national of a non-signatory State." Hanessian op cit note 66 pg. 472.
[143] Article IX (1)(e).
[144] Van der Essen is of the view that it "must be considered now one of the most important, and certainly one of the most dynamic, articles of the Treaty." Particularly, he points out, Article IX (1) (f) which "opened the door to numerous recommendations … on the protection of the environment." Van der Essen op cit note 139 pgs. 23-24.

scientific research activity" has, however, developed over time from the initial guidelines suggested in the Article.[145]

ARTICLE X

While Article X speaks to enforcement, it does not bind any country that is not a party to the treaty.[146] A treaty "does not create either obligations or rights for a third State without its consent",[147] and so it "remains somewhat of a mystery".[148] The fact that such countries can operate in Antarctica outside the terms of the Treaty is seen as a weakness of the ATS and one of the challenges facing the ATS.

ARTICLE XI

Article XI provides a mechanism for the resolution of disputes "concerning the interpretation or application" of the Treaty that might arise between any of the parties. It is very limited in scope in that it provides initially for a mechanism of resolution of the parties' own choice, and then, if such agreement cannot be reached, referral to the International Court of Justice (ICJ). However, this can only be done with the consent of all the parties to the dispute. Therefore, there is no, and can be no, compulsory resolution if no agreement can be reached internally on a resolution mechanism or externally on referral to the ICJ.[149] This is certainly a weakness, but not one that has been yet exposed. However, changing geopolitics and environmental circumstances, global warming and a significant increase in the number of parties, representing an increasingly divergent range of views (all of which need to reach consensus on any decision) means that significant disputes are inevitable.

ARTICLE XII

Article XII deals with revision and amendment, and the duration of the Treaty. After debate over adopting a limited short-term treaty or an indefinite one, a suggestion of compromise offered by South Africa saw the Treaty adopted in the long-term and with no expiration, but with a review after 30 years.[150] Article XII (2)does not specify an end date for such review

[145] For example, participation in, not the dispatch of, an expedition or conducting research at or from a station of another nation not establishing one, will suffice. This was done in order to facilitate accession to the Treaty in response to criticisms that accession to the Treaty was difficult, expensive and thus created an elitist system. See Molenaar op cit note 11.
[146] "…its application does not formally extend to third party States or their national and flagged-vessels in Antarctica." Richardson MG, "Regulating Tourism in the Antarctic: Issues of Environment and Jurisdiction" Antarctic Project Report 2/99, The Fridtjof Institute, 1999 10, pg. 15. To create legal regimes valid for the whole world, the parties to the treaty must have such an intention, and the third State must expressly consent.
[147] Vienna Convention on the Law of Treaties, Jan. 27, 1980, art. 34, 1155 U.N.T.S. 331, 341.
[148] Van der Essen op cit note 139 pg. 24.
[149] One must recall that some Antarctic Treaty parties have a history of not recognizing the jurisdiction of the ICJ, specifically Chile and Argentina which both refused to have the ICJ adjudicate on Britain's overlapping and disputed territorial claims.
[150] Van der Essen op cit note 139 pg. 24.

and thus, theoretically and technically, a consulting party is entitled to call for such a review in terms of Article XII. Importantly, Article XII also allows for modification or amendment at any time by consensus of all contracting parties, and the advantage of adopting this approach is that any amendment to the Treaty proposed at such a review would only need a majority, and not consensus, to be effective.[151] This course of action may be significant in the years ahead, particularly if the amendment is in order to deviate from the consensus model of decision-making; however, it has not yet been used.

ARTICLES XIII & XIV

Articles XIII and XIV cover exclusively administrative matters. An additional and important inclusion of an accession clause in Article XIII (1) caused an unexpected delay due to disagreement on which states could accede. Initially, and logically conceived as one article, Article XIV was separated from Article XIII to avoid the Treaty having a superstitious 13 clauses.[152]

2.9 Management of the Antarctic Treaty

2.9.1 The Antarctic Treaty Consultative meetings

To manage the Treaty, Article IX made provision for regular meetings of the ATPs with regards to "formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty." These meetings, called the Antarctic Treaty Consultative Meetings,[153] initially took place biannually, but since 1994 they have occurred annually. The meetings are individually named by their sequential numerical order rather than by year or location name. The last ATCM to be held, called ATCM XLIV, took place in Helsinki in May/June 2023.

Article IX (2) states that any state which accedes to the Treaty may attend the meetings, so long as it "demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition."[154] At first, only the 12 original parties involved with negotiating and establishing the Treaty attended the meetings. It is thus implied that there are two tiers of Antarctic Treaty membership – the 12 creators of the Antarctic Treaty and the acceding

[151] "Any modification or amendment to the present Treaty which is approved at such a Conference by a *majority* of the Contracting Parties there represented, including a majority of those whose representatives are entitled to participate in the meetings provided for under Article IX … shall enter into force in accordance with the provisions of paragraph 1 of the present Article." (Author's emphasis.) Article XII (2) of the Antarctic Treaty.
[152] Van der Essen op cit note 139 pg. 24. Delightfully, as Van der Essen notes, the decision to effect this split was made on Friday the 13th November 1959.
[153] Rule 1 of the Rules of Procedure of the Antarctic Treaty Consultative Meeting and the Committee for Environmental Protection. Updated: September 2018. Secretariat of the Antarctic Treaty, Buenos Aires 2018.
[154] Article IX (2) of the AT.

states involved with significant scientific research,[155] and, comprising the second tier, states that are not involved in significant research but nevertheless have acceded to the AT.[156] Initially, only the first tier of states, that came to be called the Consultative Parties, attended the Consultative Meetings.[157] A perception of the ACTMs being closed and exclusive garnered international criticism,[158] and so the second tier of states were then invited to join the ACTMs. Though the distinctions between the two seem slight or insignificant, in reality they proved far-reaching.[159] In line with their description as the "Consultative Parties," the first tier's privileges are to attend, participate and vote, while the second tier of attending states, known as the non-Consultative Parties, may be present by invitation only, and without the concomitant right to participate,[160] and are thus excluded from voting.[161]

The meetings are not limited to the Consultative and non-Consultative Parties, however; "Observers" too have the right to be present. Currently, these observers include SCAR, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Council of Managers of National Antarctic Programmes (COMNAP).[162] Invited experts may also attend the meetings,[163] for example the Antarctic and Southern Ocean Coalition (ASOC) and the International Association of Antarctica Tour Operators (IAATO).[164]

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[155] At the time of writing there are 29 Consultative Parties with the Czech Republic being the most recent member to obtain consultative status, in 2015.
[156] An additional 25 states at the time of writing, the most recent few being Iceland in September 2015. See Tamm S, Jabour J, & Johnstone R, "Iceland's Accession to the Antarctic Treaty" The Yearbook of Polar Law Online, 2018 9 (1), 262-281) and Slovenia in April 2019. However, the number has now risen to 28 with Costa Rica, San Marino and Saudi Arabia joining in 2022, 2023 and 2024 respectively.
[157] Rule 1 of the Rules of Procedure of the Antarctic Treaty Consultative Meeting and the Committee for Environmental Protection. Updated: September 2018. Secretariat of the Antarctic Treaty, Buenos Aires 2018.
[158] According to Beck "developing countries felt excluded from the closed Antarctic decision-making process, a criticism often articulated in recent UN debates." Beck PJ, "A continent surrounded by advice" *Polar Record* 1988 24 (151) pg. 289. See also Beck PJ, "The United Nations and Antarctica 1986" *Polar Record* 1987 23 (147) pgs. 685-88. The notion of sovereignty claims has been described as "a 'vestige of the colonial era' by Pakistan, Zambia, and Malaysia." Scott op cit note 110 referring to Hayashi M, "The Antarctica Question in the United Nations" *Cornell International Law Journal* 1986 19 pg. 280.
[159] Scott notes, quite correctly that "The much-criticized distinction between consultative and non-consultative parties was undoubtedly designed to privilege the position of claimant states and continues to do so today." Of course, the Consultative Parties themselves point to the fact that the requirement of substantial science is not intended to exclude participation per se, but exists to ensure that those participating are sufficiently scientifically engaged and knowledgeable about a fragile and pristine environment, to participate intelligently in the decision-making process. Scott op cit note 110 pg. 5. Of course, even scientific research is not without a political dimension, as Brady notes "knowledge […] is power, and states which can come up with scientific evidence to back up any policy changes they wish to promote are likely to be more influential" Brady A-M, "Introduction: Conflict or cooperation? The emerging politics of Antarctica" in Brady A-M, (ed.), The Emerging Politics of Antarctica, Oxfordshire: Routledge, 2013.
[160] Rule 1 of the Rules of Procedure of the Antarctic Treaty Consultative Meeting and the Committee for Environmental Protection. Updated: September 2018. Secretariat of the Antarctic Treaty, Buenos Aires 2018. The Rules do not mention "voting" but use the word "participate". Non-consultative Parties, though they may not vote, are nonetheless permitted to otherwise participate in the ACTMs.
[161] Rule 29 states "Non-Consultative Parties are not entitled to participate in the taking of decisions." The Rules of Procedure of the Antarctic Treaty Consultative Meeting and the Committee for Environmental Protection. Updated: September 2018. Secretariat of the Antarctic Treaty, Buenos Aires 2018.
[162] Rule 2 of the Rules of Procedure of the Antarctic Treaty Consultative Meeting and the Committee for Environmental Protection. Updated: September 2018. Secretariat of the Antarctic Treaty, Buenos Aires 2018.
[163] Unsurprisingly referred to as "Experts", their participation and role is covered by Rules 39 to 45 of the Rules of Procedure of the Antarctic Treaty Consultative Meeting and the Committee for Environmental Protection. Updated: September 2018. Secretariat of the Antarctic Treaty, Buenos Aires 2018.
[164] Secretariat of the Antarctic Treaty, https://www.ats.aq/e/atcm.html. June 2020.

A Committee for Environmental Protection (CEP) meets concurrently with the ATCM, with an agenda "to address matters relating to environmental protection and management and provide advice to the ATCM."[165] This CEP was established by the Madrid Protocol (for later discussion). The Consultative Parties are eligible to, and do when specific issues arise, call Special ATCMs or convene Meetings of Experts to address specific issues that may arise.

Decisions, made through consensus[166] at the ACTMs, fall into the three categories[167] mentioned in Rule 24:[168]

- A "Measure", defined as a "text which contains provisions intended to be legally binding once it has been approved by all the ATCPs",[169] is recommended to the ATCP's governments for approval. These then constitute the "recommendations" referred to in Article IX (4) of the AT.

- A "Decision" is operative at adoption,[170] and refers to "a decision taken at an ATCM on an internal organizational matter".

- A "Resolution" is defined as a "hortatory text adopted at an ATCM".[171]

The Final Report of the ATCM contains the full texts of all Measures, Decisions and Resolutions agreed, recommended and taken at each ATCM. These are publicly available through the Antarctic Secretariat.

2.9.2 The "consensus" nature of decision-making

Article IX (4) of the Treaty states that "The measures … shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate

[165] Ibid.
[166] Rule 24 clearly sets out that … "Measures, Decisions and Resolutions … shall be adopted by the Representatives of all Consultative Parties present" Rule 24.
[167] Initially, (from 1961 to 1994) decisions were referred to as recommendations. Once taken at an ATCM these had to be referred to the ACTP states to be approved in order to be legally binding. As Ferrada notes, this process "could take many years." Ferrada, LV "Five Factors that Will Decide the Future of Antarctica" *The Polar Journal* 2018 8 (1) pg. 87. "From 1961 to 1994, the provisions adopted at ATCMs were called "Recommendations", which subsequently had to be "approved" by states to be legally binding. As (article IX.4 of the Antarctic Treaty), in a process that could take many years."
[168] Final Report of the Nineteenth Antarctic Treaty Consultative Meeting Seoul, 8-19 May 1995. Decision 1 (1995). https://documents.ats.aq/ATCM19/fr/ATCM19_fr001_e.pdf. June 2020. For more detail on Decision 1 (1995) see Triggs: "In 1995, by Decision 1, the term 'recommendation' was deleted, and new terms were adopted. The term 'measures' is to address mandatory obligations under Article IX. 'Decisions' are also mandatory, but as they are administrative in nature, they do not require subsequent Article IX approval by all Consultative Parties." Triggs op cit note 39 pg. 44.
[169] Final Report of the Nineteenth Antarctic Treaty Consultative Meeting Seoul, 8-19 May 1995. Decision 1 (1995) Para 1. https://documents.ats.aq/ATCM19/fr/ATCM19_fr001_e.pdf. June 2020.
[170] Ibid.
[171] Ibid.

in the meetings…" and also in the Rules "… Measures, Decisions and Resolutions, as referred to in Decision 1 (1995), shall be adopted by the Representatives of all Consultative Parties present"[172] and in the Decisions where Decision 1 (1995) states that a Measure is only "… legally binding once it has been approved by all the ATCPs". Thus, decisions made with regard to Antarctica are done on the basis of consensus by all the Consultative Parties, and this is considered to be a defining feature, and, initially at least, a fundamental strength of the AT. The advantage of consensus-based decision-making is the securing of absolute support by all the ATCPs for recommendations and decisions taken. The homogeneity of the ATS is so strengthened, rather than being undermined, by differing viewpoints and competing policies and claims, originally swept under an ice carpet by Article IV.

2.9.3 The Antarctic Secretariat

According to Scott, "by 1985 it was becoming apparent that some form of permanent administrative machinery was not only desirable but necessary for the continued functioning of the Antarctic Treaty."[173] South Africa was the first country to propose a permanent secretariat for the Antarctic Treaty at the first ATCM in 1961,[174] but there was not much support for the initiative at the time. However, by the time the Madrid Protocol was concluded in 1991, all parties finally acknowledged that a secretariat had become essential.[175] A full decade later, the form, function and, vitally, the location of the secretariat were finally agreed upon.[176] At ATCM XXIV in 2001, the ATCPs agreed to establish a Permanent Secretariat for the AT.[177] Officially created in 2003 by Measure 1 (2003) of the ATCM XXVI, the secretariat began its operations on the 1st September 2004.

Located in Buenos Aires and funded by the Consultative Parties, the Secretariat is an organ of, but is subordinate to, the ATCM.[178] The purpose and function of the secretariat is contained in its mission statement:

> The Secretariat mission is to assist the Antarctic Treaty Consultative Meeting (ATCM) and the Committee for Environmental Protection (CEP) in performing their functions, with the aim of strengthening the Antarctic Treaty system and ensuring that all

[172] Rule 24.
[173] Scott KN, "Institutional Developments within the Antarctic Treaty System" The International and Comparative Law Quarterly 2003 52 (2) pg. 478.
[174] Ibid pg. 478. See also Jorge Bergufio J, "Institutional Issues for the Antarctic Treaty System with the Protocol in Force: An Overview", in Vidas D, (ed.), Implementing the Environmental Protocol Regime for the Antarctic, Dordrecht: Kluwer Academic Publishers, 2002.
[175] Scott op cit note 172 pg. 479.
[176] Scott provides an excellent summary of the various reasons for the extraordinarily long time it took for the parties to reach agreement, which include, inter alia, concerns about the "internationalization" of Antarctica, undermining sovereignty claims, financial implications, and, most significantly, a lack of agreement over the location. Scott op cit note 172 pgs. 479-480.
[177] Decision XXIV-1 (2001) Final Report of the Twenty-Fourth Antarctic Treaty Consultative Meeting, St. Petersburg, Russian Federation 9-20 July 2001.
[178] Measure 1 (2003) - ATCM XXVI - CEP VI, Madrid, Article 1. https://www.ats.aq/devAS/Meetings/Measure/294. June 2020.

activities in Antarctica are consistent with the purposes and principles of the Antarctic Treaty and its Protocol on Environmental Protection.[179]

Measure 1 (2003) determines the scope of the secretariat's work, outlined by the secretariat itself:

> "Supporting the annual Antarctic Treaty Consultative Meeting (ATCM) and the meeting of the Committee for Environmental Protection (CEP).
> Facilitating the exchange of information between the Parties required in the Treaty and the Environment Protocol.
> Collecting, storing, archiving and making available the documents of the ATCM.
> Providing and disseminating information about the Antarctic Treaty System and Antarctic activities."[180]

[179] https://www.ats.aq/e/secretariat.html. June 2020.

[180] https://www.ats.aq/e/secretariat.html. June 2020. Article 2 sets out the Secretariat's functions in greater detail:
1. The Secretariat shall perform those functions in support of the ATCM and the CEP which are entrusted to it by the ATCM.
2. Under the direction and supervision of the ATCM, the Secretariat shall, in particular:
(a) Provide, with assistance from the host government, secretariat support for meetings held under the Antarctic Treaty and the Protocol and other meetings in conjunction with the ATCM. Secretariat support shall include:
i) Collation of information for ATCM/CEP meetings e.g. environmental impact assessments and management plans;
ii) Preparatory work for and distribution of the meeting agendas and reports;
iii) Translation of meeting documents;
iv) Provision of interpretation services;
v) Copying, organizing and distributing meeting documents; and
vi) Assisting the ATCM, in drafting the meeting documents including the final report;
(b) Support intersessional work of the ATCM and the CEP by facilitating the exchange of information, organizing meeting facilities and providing other secretariat support as directed by the ATCM;
(c) Facilitate and coordinate communications and exchange of information amongst Parties on all exchanges required under the Antarctic Treaty and the Protocol;
(d) Under guidance from the ATCM, provide the necessary coordination and contact with other elements of the Antarctic Treaty system and other relevant international bodies and organizations as appropriate;
(e) Establish, maintain, develop and, as appropriate publish, databases relevant to the operation of the Antarctic Treaty and the Protocol;
(f) Circulate amongst the Parties any other relevant information and disseminate information on activities in Antarctica;
(g) Record, maintain and publish, as appropriate, the records of the ATCM and CEP and of other meetings convened under the Antarctic Treaty and the Protocol;
(h) Facilitate the availability of information about the Antarctic Treaty system;
(i) Prepare reports on its activities and present them to the ATCM;
(j) Assist the ATCM in reviewing the status of past Recommendations and Measures adopted under Article IX of the Antarctic Treaty;
(k) Under the guidance of the ATCM, take responsibility for maintaining and updating an Antarctic Treaty system "Handbook"; and
(l) Perform such other functions relevant to the purposes of the Antarctic Treaty and the Protocol as may be determined by the ATCM. Measure 1 (2003) - ATCM XXVI - CEP VI, Madrid, Article 2 https://www.ats.aq/devAS/Meetings/Measure/294. June 2020.

2.10 The Antarctic Treaty System

2.10.1 Introduction

The Antarctic Treaty was the beginning of the creation of an Antarctic governance regime. It recognised that it had not catered for every eventuality, and that it would have to adapt and evolve and develop over time. It therefore itemised several areas where further development might be needed. While the Antarctic Treaty had established the preservation of the Antarctic for peaceful purposes, the primacy of scientific research and the novel side-lining of sovereignty disputes as the main issues that needed to be addressed, the evolution of the Antarctic Treaty in the years that followed specifically addressed two critical areas requiring attention: controlling the exploitation of resources and the preservation of the Antarctic environment. The exploitation of Antarctic resources was already a driving interest[181] following a history of natural resource exploitation in Antarctica. Antarctica as a specific interest and the associated aspect of environmental protection were inextricably linked, but the two existed independently of each other, and were not always compatible. The prospect of potential mineral wealth and the onset of an Antarctic governance regime highlighted the need to regulate the continent formally.

The "preservation and conservation of living resources in Antarctica"[182] was initially included at the end of the list of the many things the Treaty parties identified as important to discuss when they agreed to meet on a regular basis.[183] Environmental protection was not at the forefront of the concerns driving the creation of the Treaty.

What began, then, as a small sub-clause of competency has developed to become the Antarctic Treaty's most important principle today.[184] Underpinning this quick evolution has been developments in science, the development of the global conservation and environmental protection network (in parallel with the development of international environmental philosophy and, in recent years, the threats posed by climate change). That it is in many ways an ideal place for environmental and other significant research, that its preservation focus was both for science and for peace, that the continent has a direct and profound impact on the environmental health of the globe, coupled with the fact that the world's environmental troubles has a direct and measurable impact on Antarctica, all distil Antarctica's identify into one of profound environmental significance.

[181] One of the motivating factors, if not the primary motivating factor, behind claims to sovereignty over Antarctic territory is the concomitant right to exploit, or control the exploitation of, resources.
[182] Article IX (1) (f).
[183] "Although the 1959 Antarctic Treaty did not directly address the issue of environmental protection, the parties were granted a mandate to develop environmental measures under Article IX (f) of the treaty." Scott op cit note 110 pg. 4.
[184] "… the parties … substantially developed, this regime in order to create and implement some of the highest standards of environmental protection within international law." Scott op cit note 110 pg. 4.

Soon after the Treaty became operational, the trajectory of this environmental evolution began, and has only gained momentum since.[185] In 1964, three years after the Treaty came into force, the Consultative Parties, adopted the Agreed Measures for the Conservation of Antarctic Fauna and Flora. Eight years later the Convention for the Conservation of Antarctic Seals was signed, and in another 8 years, in 1980, the Convention on the Conservation of Antarctic Marine Living Resources came into being. These important developments paved the way for the Protocol on Environmental Protection to the Antarctic Treaty, known as the Madrid Protocol, signed in 1991 and which came into effect in 1998.[186] The Committee on Environmental Protection was established under the Madrid Protocol, and its Preamble clearly identified the objective of the Protocol as "the comprehensive protection of the Antarctic environment and dependent and associated ecosystems." In just thirty years, Antarctica had evolved from serving as a vehicle for the use of science as a Cold War détente to becoming a focal point of comprehensive environmental significance and protection. This remarkable shift in the continent's meaning and place in the world occurred in a number of important ways.

2.10.2 Co-operative relationships with agencies and entities

According to the AT, the Consultative Parties are required to engage with "Specialized Agencies of the United Nations and other international organizations having a scientific or technical interest in Antarctica". The Scientific Committee for Antarctic research (SCAR), established in 1958, has emerged as the most significant of these scientific organisations. SCAR serves as the curator of the ATS's scientific data bases, is its "scientific secretariat" and advises the Antarctic Treaty Consultative Meetings on scientific and environmental concerns within the area of the AT, the Southern Ocean, the sub-Antarctic islands and those further north. SCAR is therefore a fundamental and integral entity of the ATS. There are other international environmental and scientific bodies with interests in Antarctica and the Southern Ocean with which the Antarctic Treaty collaborates. Examples include the International Whaling Commission, the Antarctic and Southern Ocean Coalition (ASOC) (explicitly an environmental focus)[187] and, indirectly through SCAR, other organisations such as Birdlife International.[188]

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[185] "The Consultative Parties rapidly came to appreciate that a primary function of Antarctic governance for the future was to preserve and conserve the environment." Triggs op cit note 39 pg. 44.
[186] The Madrid Protocol.
[187] "Our Mission: To continue to protect the vulnerable ecosystems of Antarctica and the Southern Ocean by providing a unified voice for Antarctic conservation." https://www.asoc.org/. February 2024.
[188] At the 2015 ACTM the ATCP formally recognized BirdLife International's Antarctic Important Bird Areas. This was a project undertaken, together with SCAR, to identify which parts of the continent were most important for the protection of birdlife and to put in place measures for their protection. 204 sites were identified and are now recognised by the ATCPs. Antarctic Treaty Nations Recognize the Continent's Important Bird Areas, June 22, 2015. https://www.pewtrusts.org/en/research-and-analysis/articles/2015/06/22/antarctic-treaty-nations-recognize-the-continents-important-bird-areas. June 2020.

2.10.3 International Instruments

There are a range of international treaties that overlap the region[189] in which the Antarctic Treaty is firmly embedded. Some of these include:

- The International Convention for the Regulation of Whaling; (ICRW)
- The Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- The United Nations Convention of the Law of the Sea; (UNCLOS)
- The Convention on Biological Diversity; (CBD)
- The United Nations Framework Convention on Climate Change; (UNFCCC)
- Regulations by the International Maritime Organisation; (IMO)
- Regional Fisheries Management Organisations;[190] (RFMOs)
- The Agreement on the Conservation of Albatrosses and Petrels. (ACAP)

Rothwell comments that all of these additional treaties address aspects of conservation in the Antarctic not directly addressed by the AT.[191] Although none are part of the ATS, these respected agreements compliment the existence of the AT, and are legally binding in the Antarctic.[192]

2.11 The evolution of the Antarctic Treaty into a treaty system

2.11.1 Internal, binding measures: The Agreed Measures for the Conservation of Antarctic Fauna and Flora

Over time and the regular ATCMs, the Consultative Parties have discussed specific environmental and other measures (for example tourism) implementable in various arenas of the continent's governance, and actioned these. Once agreed upon, these measures

[189] "ATS's competency and encompasses further international legal instruments that also apply to Antarctica" Engelbertz op cit note 32 pg. 66, referring to Vigni P, "The Interaction between the Antarctic Treaty System and the other relevant Conventions applicable to the Antarctic Area: A practical approach versus theoretical doctrines" in Frowein JA, Wolfrum R, & Philipp CE, (eds.), Max Planck Yearbook of United Nations Law, 2000 4 481–542. The Hague: Kluwer Law International. See also Engelbertz "… and a number of complementary instruments contributing further principles, norms and practises, which have been added to the Treaty over time." Engelbertz op cit note 32 pg. 64, referring to Blumenfeld S, "For Science and Peace: The Creation and Evolution of the Antarctic Treaty System" *Yale Economic Review* 2010 6 (1), 28–55; Dodds KJ, "Governing Antarctica: Contemporary Challenges and the Enduring Legacy of the 1959 Antarctic Treaty" *Global Policy* 2010 1 (1), 108–115; Haward M, "The Antarctic Treaty System: Challenges, Coordination, and Congruity", in Brady A-M, (ed.), The Emerging Politics of Antarctica, Oxfordshire: Routledge, 2013.

[190] See Joyner CC, Governing the Frozen Commons: The Antarctic Regime and Environmental Protection. Columbia, SC: University of South Carolina Press, 1998 and Rothwell op cit note 77.

[191] Rothwell DR, "The Antarctic Treaty System: Resource Development, Environmental Protection or Disintegration?" *The Arctic Journal* 1990 4 (3), 284–291.

[192] For example, all the signatories to the ACAP are also in fact members of the AT: Argentina, Australia, Brazil, Chile, Ecuador, France, New Zealand, Norway, Peru, South Africa, Spain, United Kingdom and Uruguay. 8 of them were founding members of the Antarctic Treaty and the remainder all have Consultative Party status.

become binding on all Treaty parties, including those acceding to the Antarctic Treaty after the measures are recommended to the ATCPs' governments, promulgated and approved.

The move towards the conservation of fauna and flora on the continent were the first measures aimed at Antarctic environmental protection, and once taken initiated the evolution of the Antarctic Treaty into an environmental conservation and protection system. "Measures for the protection and conservation of living resources and the exchange of information on the subject"[193] was item 7 on the agenda of the second ATCM in 1962. In 1964 at the third ATCM the "Protection of fauna and flora" headed the agenda,[194] leading to the adoption[195] of the Agreed Measures for the Conservation of Antarctic Fauna and Flora.[196]

Firstly, the Preamble to Agreed Measures significantly recognised the uniqueness of Antarctic fauna and flora and "their defencelessness and susceptibility to extermination." Secondly, the Preamble specified that the objectives of the Agreed Measures for fauna and flora are "protection, scientific study, and rational use". Thirdly, the Preamble required the ACTM to have "particular regard to the conservation principles developed by the Scientific Committee on Antarctic Research (SCAR)" and, finally, stated that the whole Antarctic Treaty area was considered to be a Special Conservation Area."[197]

The fundamental principle of the Agreed Measures is set out by Article VII: that the Antarctic Treaty parties "shall take appropriate measures to minimise harmful interference within the Treaty Area with the normal living conditions of any native mammal or bird, or any attempt at such harmful interference".[198] Areas of "outstanding scientific interest" were identified and the concept of "specially protected areas" were created. These are protected by the Agreed Measures to "preserve their unique natural ecological system."[199] "Specially Protected Species" are also warranted special protection[200] through a stricter and more limited application of the permit system introduced to protect Antarctic native species.[201] After the adoption of the Madrid Protocol at ATCM XXXIV, the Agreed Measures

[193] Report of the Second Consultative Meeting of the Antarctic Treaty 28 July 1962, pg. 2.
[194] Report of the Third Consultative Meeting of the Antarctic Treaty June 13th 1964, pg. 2.
[195] The ACTM also adopted Recommendation IX, "Interim Guidelines for Conservation of Fauna and Flora" Report of the Third Consultative Meeting of the Antarctic Treaty June 13th 1964, pg. 20 and Recommendation X encouraging SCAR to continue its work on the conservation of Antarctic fauna and flora, specifically: Annex A Specially protected species, Annex B Specially Protected Areas, Annex C Importation of Animals and Plants and Annex D Precautions to Prevent Accidental Introduction of Parasites and Diseases into the Treaty Area. Report of the Third Consultative Meeting of the Antarctic Treaty June 13th 1964, pgs. 18, 19 & 20.
[196] Report of the Third Consultative Meeting of the Antarctic Treaty June 13th 1964, pgs. 7–20.
[197] Preamble to the Agreed Measures. Report of the Third Consultative Meeting of the Antarctic Treaty June 13th 1964, pg. 8.
[198] Article VII (1) of the Agreed Measures. Report of the 3rd Consultative Meeting June 13th 1964, pg. 13.
[199] Article VIII of the Agreed Measures Report of the Third ATCM pg. 14.
[200] Article VI (5) of the Agreed Measures Report of the Third ATCM pg. 12.
[201] Article VI (1) prohibits "the killing, wounding, capturing or molesting of any native mammal or native bird … except in accordance with a permit." While Article VI (2) sets out the circumstances under which such a permit may be issued, and Article VI (4), certain limits on the issue thereof. Agreed Measures Report of the Third ATCM pg. 11.

were designated as "no longer current" and thus "require no further action by the parties."[202] They had effectively served their purpose.

2.11.2 The creation of additional subsidiary treaties

The environmental mandate of the Antarctic Treaty was developed through the creation of additional treaties and agreements directly associated with the Antarctic Treaty. These include:

- The Convention for the Conservation of Antarctic Seals (CCAS 1972),
- The Convention of the Conservation of Antarctic Marine Living Resources[203] (CCAMLR 1980)
- The Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA).

2.11.2.1 The Convention for the Conservation of Antarctic Seals

As the first independent treaty that dealt with matters of Antarctica after the Antarctic Treaty itself, the Convention for the Conservation of Antarctic Seals (CCAS) was innovative in that it was anticipatory, not reactive. The late 1700s and early 1800s[204] saw many species of seal populations decimated to near extinction through commercial sealing practices. The industry collapsed as a result, and at the birth of the AT, Southern Ocean sealing was an exploitation relegated to the past. The negotiation of the CCAS ensured that there was still a system in place to protect all seal species[205] in the Antarctic area (delineated to include all the seas south of 60°S latitude). The Convention prohibits the capture or killing of seals within the Convention area[206] unless done with a permit,[207] and so its establishment looked

[202] Decision 1 (2011) ATCM XXXIV – CEP XIV, 1 July 2011 and Annex to Decision 1 (2011). https://ats.aq/devAS/Meetings/Measure/491. June 2020.
[203] This treaty also established an international organisation with a legal persona, a first in the Antarctic, which is based in Hobart, Australia.
[204] "Following the virtual extinction of fur seal in South Georgia after 1786 and the discovery of the South Shetland Islands in 1819, the major fur seal populations of the South Atlantic were almost wiped out by the 1820s." The Antarctic Treaty Handbook, pg. 326. https://2009-2017.state.gov/documents/organization/15280.pdf. July 2021.
[205] Article 1 (2)
"This Convention may be applicable to any or all of the following species:
Southern elephant seal Mirounga leonina,
Leopard seal Hydrurga leptonyx,
Weddell seal Leptonychotes weddellii,
Crabeater seal Lobodon carcinophagus,
Ross seal Ommatophoca rossi,
Southern fur seals Arctocephalus sp."
Article 1 (2) CCAS.
[206] Article 2 (1) CCAS.
[207] Article 4 provides for the issue of permits and sets of the purposes for which a permit may be issued "a) to provide indispensable food for men or dogs; b) to provide for scientific research; or c) to provide specimens for museums, educational or cultural institutions." Article 4 (1) CCAS.

to achieve a balance between protection and rational use.[208] With an Annex that dictates the limits of seal numbers that may be captured or killed with a permit,[209] seal species which may not be killed at all,[210] closed seasons[211] and protected areas, and "Seal Reserves" where no sealing may take place.[212]

Since the Treaty came into force, there has been no sealing in the area below 60°South in the Southern Ocean.[213] Nonetheless, monitoring has been enforced and seal data for science and research is collected by SCAR.[214] Triggs points out,

> "The technique of drafting a separate treaty to deal with a specific issue while maintaining dominance by the Antarctic Treaty Parties and protected by a sovereign neutrality clause provided a valuable precedent for the subsequent negotiation in 1980 of the Convention on the Conservation of Antarctic Marine Living Resources."[215]

Thus, as the first free-standing Treaty negotiated, CCAS stands as a milestone in the development of the ATS.

2.11.2.2 Convention on the Conservation of Antarctic Marine Living Resources

The complexities of a delicate and vital marine ecosystem[216] and an increasing focus on Antarctic marine resources led to further environmental protection interests and development by the ATCPs. Exploitation of the krill populations in the Southern Ocean[217]

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[208] "Desiring to promote and achieve the objectives of protection, scientific study and rational use of Antarctic seals, and to maintain a satisfactory balance within the ecological system," Preamble to the CCAS.
[209] Annex 1. Permissible Catch.
[210] Annex 2. Protected Species
"a) It is forbidden to kill or capture Ross seals Ommatophoca rossi, Southern elephant seals Mirounga leonina, or fur seals of the genus Arctocephalus.
b) In order to protect the adult breeding stock during the period when it is most concentrated and vulnerable, it is forbidden to kill or capture any Weddell seal Leptonychotes weddellii [one year old or older] between 1 September and 31 January inclusive." Annex 2 CCAS.
[211] Annex 3. Closed Season and Sealing Season. CCAS.
[212] Annex 5. Seal Reserves. CCAS.
[213] In fact, none since the brief attempt in 1964. The Antarctic Treaty Handbook pg. 326. https://2009-2017.state.gov/documents/organization/15280.pdf. July 2021.
[214] The SCAR Group of Specialists on Antarctic Seals.
[215] Triggs op cit note 39 pg. 44.
[216] Set against the backdrop of a growing international environmental awareness.
[217] British Antarctic Survey. https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-convention-on-the-conservation-of-antarctic-marine-living-resources/. June 2020. See also Klekociuk A, & Wienecke B, "Australia State of the Environment 2016: Antarctic environment" Independent report to the Australian Government Minister for the Environment and Energy, Australian Government Department of the Environment and Energy, Canberra, 2017, referring to Constable AJ, de la Mare WK, Agnew DJ, Everson I, Miller DGM, "Managing fisheries to conserve the Antarctic marine ecosystem: practical implementation of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)" *ICES Journal of Marine Science* 2000 57 (3) 778–791. Nicol *et al.*, by way of illustrating this point note that krill was fished at 4 tonnes in 1961–62, 306 tonnes in 1964–65 and 500 000 tonnes per year by the early 1980s. Nicol S, Foster JL, & Kawaguchi S, "The fishery for Antarctic krill: recent developments" *Fish and Fisheries* 2011 13 (1), 30–40.

and the impact on marine life[218] led to the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), which is described as

> "…a multilateral response to concerns that unregulated increases in krill catches in the Southern Ocean could be detrimental for Antarctic marine ecosystems particularly for seabirds, seals, whales and fish that depend on krill for food."[219]

CCAMLR, another unique development in Antarctic environmental conservation and protection, was signed in 1980 and came into force from 1982. It is innovative in its ecosystem approach to conservation,[220] the first time such an approach was used in an international convention.[221] The Preamble specifically recognises "… the importance of safeguarding the environment and protecting the integrity of the ecosystem of the seas surrounding Antarctica."[222] The Convention defined both what constitutes a marine living resource and what is meant by marine ecosystem in Articles I (2) and I (3) respectively:

> "Antarctic marine living resources means the populations of fin fish, molluscs, crustaceans and all other species of living organisms, including birds, found south of the Antarctic Convergence.
>
> The Antarctic marine ecosystem means the complex of relationships of Antarctic marine living resources with each other and with their physical environment."[223]

The foundation of this Convention was built upon two environmental protection instruments,[224] namely the principle of rational use of Antarctic resources,[225] and the subtle extension of this through the setting of upper limits on what constitutes rational use.[226]

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[218] CCAMLR was developed "… in response to increasing commercial interest in Antarctic krill resources, a keystone component of the Antarctic ecosystem and a history of over-exploitation of several other marine resources in the Southern Ocean." https://www.ccamlr.org/en/organisation. June 2020.
[219] https://www.ccamlr.org/en/organisation/convention. June 2020.
[220] "An ecosystem approach does not concentrate solely on the species fished, but also seeks to avoid situations in which fisheries have a significant adverse effect on 'dependent and related species'. CCAMLR has to develop management approaches that assess the status of the ecosystem and its health." https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-convention-on-the-conservation-of-antarctic-marine-living-resources/. June 2020.
[221] "The Convention on the Conservation of Antarctic Marine Living Resources was the first international convention whose fisheries management strategy was based on the ecosystem approach." Klekociuk & Wienecke op cit note 216 referring to Arnaudo R, "A short history of CCAMLR: a unique conservation and management regime", paper presented at the Commission for the Conservation of Antarctic Marine Living Resources Symposium, Valdivia, Chile, 5–8 April 2005.
[222] Preamble to CCAMLR.
[223] Article I (2) & (3) CCAMLR.
[224] It specifically acknowledges this in the Preamble: "… recalling the action already taken by the Antarctic Treaty Consultative Parties including in particular the Agreed Measures for the Conservation of Antarctic Fauna and Flora, as well as the provisions of the Convention for the Conservation of Antarctic Seals". Preamble CCAMLR.
[225] The term "rational use" is expressly used in the Preambles to both the Agreed Measures and CCAS as an objective of both instruments (along with the protection of, and scientific study of, the subjects of the instruments).
[226] Article II CCAMLR.

The Convention defines the area of its application not by a fixed line of latitude (as is the case with the AT) but as the whole area south of the Antarctic Convergence.[227] This was done to safeguard the environment and protect the integrity of the ecosystem. Though variable, the Convergence is a determinable and permanent boundary.[228] Several sub-Antarctic islands fall within, in, or immediately adjacent to the Convergence. As these islands are not subject to the Antarctic Treaty Article IV moratorium on sovereignty claims, the sovereignty of most is claimed and not contested. This has meant that the Convergence was not without its tensions in terms of the implications for the sovereignty over these islands, particularly when the marine zones adjacent to them fall within the purview of CCAMLR.[229] The resolution to these issues were firstly, inter alia,[230] to make CCAMLR subject to the principles of the Antarctic Treaty;

> "The Contracting Parties … agree that they will not engage in any activities in the Antarctic Treaty area contrary to the principles and purposes of that Treaty and that, in their relations with each other, they are bound by the obligations contained in Articles i and v of the Antarctic Treaty."[231]

The second resolution was to make it subject to the "sovereign neutrality" clause in Article IV of the AT,[232]

> "With respect to the Antarctic Treaty area, all Contracting Parties, whether or not they are Parties to the Antarctic Treaty, are bound by Articles iv and vi of the Antarctic Treaty in their relations with each other."[233]

Article IV then goes on to reiterate the principles contained in Article IV of the AT.[234] The Convention also refers to the Agreed Measures and the Convention for the Conservation of

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[227] The Antarctic Convergence is often referred to as the Antarctic Polar Front, which is a "physically and biologically distinct frontal zone where the cold water of the Southern Ocean encounters, and flows under, the warmer and more saline sub-Antarctic water of the Atlantic, Indian and Pacific Oceans." https://www.ccamlr.org/en/organisation/fishing-ccamlr. June 2020.

[228] The convention actually provides a series of co-ordinates which typify the general position of the Convergence; "The Antarctic Convergence shall be deemed to be a line joining the following points along parallels of latitude and meridians of longitude: 50°S, 0°; 50°S, 30°E; 45°S, 30°E; 45°S, 80°E; 55°S, 80°E; 55°S, 150°E; 60°S, 150°E; 60°S, 50°W; 50°S, 50°W; 50°S, 0°." Article 1 (4) of CCMLAR.

[229] South Georgia, Bouvet, Heard and Kerguelen Islands are examples. See Beck PJ, The International Politics of Antarctica, Beckenham, Croom Helm, 1986.

[230] A statement by the Chairman of the Conference on the Conservation of Antarctic Marine Living Resources was annexed to the text of the convention in which specifically addressed the issue of France's sovereignty over the waters adjacent to Kerguelen and Crozet Islands. The CAMLR Convention is regarded as consisting of the articles, an annex and the statement by the Chairman. CAMLR Convention, https://www.ccamlr.org/en/organisation/camlr-convention, June 2023. For the statement see https://www.ccamlr.org/en/organisation/camlr-convention-text#Chair, June 2023.

[231] Article III CCAMLR. Article IV (1) CCAMLR.

[232] Triggs op cit note 39 pg. 44. Also referred to as a "bifocal" approach. See Lee ML, "The 1959 Antarctic Treaty: the 'Freezing and Bifocalism' Formula" Australian International Law Journal 2000 vol 9, 200-214. See also Beck op cit note 228.

[233] Article IV (1) CCAMLR.

[234] Article IV (2):
"Nothing in this Convention and no acts or activities taking place while the present Convention is in force shall:

Antarctic Seals. All parties to the Convention, then, may not deviate from their obligations in terms of CCAS and the IWC,[235] and are bound to observe the Agreed Measures.[236]

CCAMLR also created the Commission for the Conservation of Antarctic Marine Living Resources, with legal personality[237] and headquarters in Hobart, Australia,[238] to which not only contracting parties and acceding parties but also "regional economic integration organisation(s)" could belong.[239] Another important and innovative move of the Convention was to create a Scientific Committee.[240] This Committee had wide-reaching responsibilities[241] and a Secretariat, also based in Hobart,[242] which emerged as the first permanent ATS structure.

CCAMLR is by and large a success[243] and, apart from some criticism about its ability to enforce fishing and other exploitative actions, CCAMLR's research contributions in the Southern Ocean are significant.[244]

(a) constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in the Antarctic Treaty area or create any rights of sovereignty in the Antarctic Treaty area;
(b) be interpreted as a renunciation or diminution by any Contracting Party of, or as prejudicing, any right or claim or basis of claim to exercise coastal state jurisdiction under international law within the area to which this Convention applies;
(c) be interpreted as prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any such right, claim or basis of claim;
(d) affect the provision of Article iv, paragraph 2, of the Antarctic Treaty that no new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the Antarctic Treaty is in force."

[235] Article VI CCAMLR.
[236] Article V (2) of CCAMLR.
[237] Article VIII CCAMLR. The Commissions legal personality is, however, limited to the territories of the state parties, by which is meant, presumably, contracting and acceding parties, but not regional economic integration organisations.
[238] Article XIII CCAMLR.
[239] Article VII CCAMLR.
[240] Article XIV CCAMLR. "The Scientific Committee shall provide a forum for consultation and co-operation concerning the collection, study and exchange of information with respect to the marine living resources to which this Convention applies. It shall encourage and promote co-operation in the field of scientific research in order to extend knowledge of the marine living resources of the Antarctic marine ecosystem." Article XIV (1) CCAMLR.
[241] Article XIV (2) CCAMLR.
[242] Article XVII CCAMLR.
[243] "The precautionary approach adopted by CCAMLR requires that conservation and management measures are established, so that populations of harvested species do not decrease below levels that ensure stable recruitment." "CCAMLR has successfully implemented the ecosystem approach to management in new, exploratory and established fisheries under its control. Fishing in the Southern Ocean in CCAMLR sectors 58.4.1 and 58.4.2 (East Antarctica) has remained well below set catch limits, since no fisheries operate there." Klekociuk & Wienecke op cit note 216.
[244] For example, it has established the CCAMLR Ecosystem Monitoring Program, which aims "to detect and record significant changes in critical components of the ecosystem to serve as a basis for the conservation of Antarctic marine living resources" (https://www.ccamlr.org/en/science/ccamlr-ecosystem-monitoring-program-cemp. July 2021). "CCAMLR also encourages national programs operating in Antarctica to undertake fisheries-related research aimed at maintaining species stocks at levels that maintain recruitment into populations of target species, but also provide for the needs of dependent species." Klekociuk & Wienecke op cit note 216 referring to Constable AJ, "The status of Antarctic fisheries research" in Jabour-Green J, & Haward M, (eds.) The Antarctic: past, present and future, Antarctic CRC research report 28, Antarctic Cooperative Research Centre, Hobart, 2002, pgs. 71–84. EU membership of CCAMLR has created some conflict arsing from a power struggle over whether the EU commission is the only body competent to submit proposals on MPAs, under CCAMLR

2.11.2.3 Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA)

Mineral exploitation too, needed attention. The geological evidence from structural and geochemical geological perspectives confirms that there are mineral resources in Antarctica in exploitable quantities.[245] is The fact of Antarctica's unique environmental challenges rather than a lack of will has prevented exploitation to extract these resources thus far.[246] Raised early as an issue at the 1977 ATCM, the ATCPs passed a Recommendation in which they placed a moratorium on all mineral activity in Antarctica pending the development of a minerals regime:

> "They urge their nationals and other States to refrain from all exploration and exploitation of Antarctic mineral resources while making progress towards the timely adoption of an agreed regime concerning Antarctic mineral resource activities. They will thus endeavour to ensure that, pending the timely adoption of agreed solutions pertaining to exploration and exploitation of mineral resources, no activity shall be conducted to explore or exploit such resources."[247]

The Antarctic mineral wealth was again addressed from 1980[248] to 1988, and proactive action was taken again by the ATCPs in anticipation of the possible need to regulate exploitation.[249]

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and seems to have been driven by the EU commissions desire to control and enforce EU common fisheries policy. See *European Commission v Council of the European Union* (Joined Cases C-626/15 and C-659/16).

[245] See, for example, among many articles, Van der Watt L-M "Return to Gondwanaland: South Africa, Antarctica, minerals and apartheid" *The Polar Journal* 2013 3 (1) 72-93.

[246] "The high costs associated with the exploration, mining and transportation made the commercial exploitation of Antarctic mineral resources inefficient." Engelbertz op cit note 32 pg. 65.

[247] Recommendation IX-1.8 (ATCM IX - London, 1977). Final Report of the ATCM IX 1977 para 8. https://www.ats.aq/devAS/Meetings/Measure/117. July 2020. It is interesting to note that as early as 1977 the ATCPs were "Concerned that unregulated activities related to exploration and exploitation of mineral resources could adversely affect the unique environment of the Antarctic and other ecosystems dependent on the Antarctic environment," (Preamble to Recommendation IX-1 1977), and noted that "protection of the unique Antarctic environment and of its dependent ecosystems should be a basic consideration." (Recommendation IX-1.4(iii)). In doing this and in noting also that "the Consultative Parties, in dealing with the question of mineral resources in Antarctica, should not prejudice the interests of all mankind in Antarctica;" (Recommendation IX-1.4(iv)), they crystallised the root of the forthcoming discord with regard the minerals regime, juxtaposing environmental protection – an "interest of all mankind", with resource wealth – another "interest of all mankind".

[248] A special ATCM was convened in 1980 to discuss minerals and again in 1981. It was listed on the agenda of ATCM XI in 1981 which recommended "the development of a minerals regime 'as a matter of urgency' and further established a special ATC Meeting to negotiate a minerals convention" Blay S, & Tsamenyi BM, "Australia and the Convention for the Regulation of Antarctic Mineral Resource Activities (CRAMRA)" *Polar Record* 1990 26 (158) pg. 196.

[249] Some point out that while the ATCPs were proactive in the sense that there were no actual mining activities underway in Antarctica, the prospect of mining occurring "forced the ATS to take anticipatory action and negotiate an Antarctic mineral regime before unregulated mining actually commenced." Rothwell op cit note 190 pg. 285.

The Convention was eventually adopted after extensive negotiation in 1988 by twenty ATCPs[250] at a special ATCM in Wellington.[251] However, none of the 19 states[252] that signed have ratified the Convention, and many states have expressly rejected it.[253] The Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol) has since superseded the Convention, making it doubtful that ratification and eventual operation will ever occur. Australia, having actively participated in the negotiation and finalisation of the Convention, including the specific incorporation of significant environmental protections,[254] announced in 1989 that it would not sign the Convention, and was joined by France[255] which almost immediately proposed an alternative to CRAMRA, effectively rendering CRAMRA defunct.

2.11.3 The expansion of the Antarctic Treaty itself

The development of a protocol to the Treaty, specifically The Protocol on Environmental Protection[256] (the Madrid Protocol 1991/1998), has also expanded the scope of the AT.

2.11.3.1 The Madrid Protocol

Australia and France headed the move to propose an alternative approach to CRAMRA to deal with Antarctic mineral activity. This generated a new approach and attitude to Antarctica as a whole, with environmental protection at the core. The protocol that was subsequently developed was a significant development in the Antarctic Treaty system. Negotiations towards an environmental convention culminated fairly rapidly in 1991 in the Protocol on Environmental Protection to the Antarctic Treaty, known as the Madrid Protocol. Established within two years[257] to address environmental and related issues, the Protocol took a further seven years to come into effect in 1998.

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[250] The ATCPs present were Argentina, Australia, Belgium, Brazil, Chile, China, France, East Germany, West Germany, India, Italy, Japan, New Zealand, Norway, Poland, South Africa, USSR, United Kingdom, USA and Uruguay.

[251] Joyner points out that CRAMRA, which he refers to as the Wellington Convention "…is an impressive document. The instrument contains 67 articles, with an annex for an arbitral tribunal also appended." Joyner CC, "CRAMRA: The Ugly Duckling of the Antarctic Treaty System?" in Jørgensen-Dahl A, & Østreng W, *et al.* (eds.) The Antarctic Treaty System in World Politics, Palgrave Macmillan, London 1991, pg. 162.

[252] Of those present in Wellington, Australia, Belgium, France, West Germany, India and Italy did not sign, but Czechoslovakia, Denmark, Finland, Sweden and South Korea subsequently have, bringing the total to 19.

[253] Australia was the first to do so in May 1989, followed by Belgium, France and India. See Blay & Tsamenyi op cit note 247 pg. 195.

[254] See Blay & Tsamenyi op cit note 247 pg. 197, where they point out that Australia, through the Commission, effectively had a veto and could have prevent mining activity on environmental grounds.

[255] "Other negotiation parties followed, including New Zealand." Engelbertz op cit note 32 pg. 66.

[256] The Madrid Protocol also established the Committee on Environmental Protection which reports to the ATCMs.

[257] This was facilitated by the fact that it built "on the ideas already established during the CRAMRA negotiations and include[d] some of CRAMRA's innovations such as the liability aspect or special protected areas." Engelbertz op cit note 32 pg. 66, referring to Auburn F, (1990). "Convention on the Regulation of Antarctic Mineral Resource Activities" Antarctic Research Series 1990 51, 259–271 and Orheim O, "Managing the Frozen Commons" pgs. 273–300, in Walton DWH, (Ed.) Antarctica: Global Science from a Frozen Continent, Cambridge: Cambridge University Press, 2013.

The Preamble identifies, *inter alia*:

> "… the need to enhance the protection of the Antarctic environment and dependent and associated ecosystems; [and]
> the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole."

The Protocol became the third pillar upon which the ATS now rests. At its heart is environmental protection and the acknowledgement that Antarctica belongs to mankind as a whole (the phrase "in the interest of mankind as a whole" is used).

The Preamble of the Protocol also acknowledges the need:

> "… to strengthen the Antarctic Treaty system so as to ensure that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord."

The decision to form the agreement not as a stand-alone convention linked to the Antarctic Treaty but as a protocol to the Antarctic Treaty was based on two factors. Firstly, the Protocol is incorporated into the Antarctic Treaty and therefore adopts and is also incorporated into the Treaty's governing provisions (peace, freedom of scientific research and the moratorium on sovereignty claims). Secondly, it strengthens the Treaty's focus on environmental protection. Less obviously, it also shields the Treaty from criticism that it failed to make environmental protection a core principle, and diverts attention from the fact that the Antarctic Treaty still only serves the concerns of a select group of nations. The Protocol lends itself to support for its expansive stance on environmental protection, defusing any reluctance from other countries to support the Treaty.[258]

The design principles of the Protocol are simple. It is made up of 27 articles that outline the core principles. These articles are supplemented by several annexes which make provision for more detailed rules. The Committee for Environmental Protection (CEP) itself points out that this "allows for the Annexes to be updated to accommodate changes in environmental awareness and management practices, and for additional annexes to be added as the need arises."[259]

The CEP summarises the core principles thus:

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[258] The document, "25 Years of the Protocol on Environmental Protection to the Antarctic Treaty", prepared by the Protocol's own Committee for Environmental Protection and published by the Secretariat of the Antarctic Treaty, Buenos Aires, actually states, of the Protocol that "[i]ts status as a Protocol to the Antarctic Treaty was intended to strengthen the Treaty as the governance framework for the region." Committee for Environmental Protection "25 Years of the Protocol on Environmental Protection to the Antarctic Treaty" Secretariat of the Antarctic Treaty, Buenos Aires 2016, pg. 8.

[259] Ibid.

"• The designation of Antarctica as a 'natural reserve, devoted to peace and science';
- A prohibition on mining and mineral resource activities in the Antarctic Treaty area;
- The requirement that protection of the environment shall be a fundamental consideration in the planning and conduct of all activities in the Antarctic;
- A comprehensive framework for assessing environmental impacts in Antarctica, including prior assessment of all activities;
- A requirement to establish contingency plans and provide for prompt and effective response to environmental emergencies in the Antarctic; and
- The establishment of the Committee for Environmental Protection (CEP)."[260]

The relevant articles, as they appear in the Protocol, are discussed below.

Article 2 designates Antarctica "as a natural reserve, devoted to peace and science"[261] which underlines the peace and science pillars of the AT.

Article 3 contributes the primary purpose of the environmental pillar:

> "The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area."[262]

Article 3 goes on to provide a structure for the balancing and regulation of the environment, scientific research and human activity. Article 3(2) (a) and (b) state that activities must be planned to minimise adverse environmental (and other) impacts,[263] while Article 3(2) (c) introduces the concept that activities are only permitted after a prior impact assessment.[264] Article 3(2) does, however, emphasise that the impact of an activity includes not just the impact on the Antarctic environment, but also the impact on "the value of Antarctica for the conduct of scientific research."[265] Article 3(3) also prioritises scientific research as an

[260] Ibid pgs. 8-9.
[261] Article 2 Madrid Protocol.
[262] Article 3 (1) Madrid Protocol
[263] Article 3 (2) (a) "… the Antarctic environment and dependent and associated ecosystems" and 3 (2) (b) (i) - (vi), "climate", "air or water quality", atmospheric, terrestrial ... glacial or marine environments", "fauna and flora", "endangered or threatened species" and "areas of biological, scientific, historical aesthetic or wilderness significance."
[264] Article 3 (2) (c) sets out in paragraphs (i) to (vi) the factors to be considered in making these assessments.
[265] Article 3 (2) (c). "…activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research."

activity and indicates that preserving the environment "as an area for the conduct of such research" is the priority.[266]

Vitally, Article 7 prohibits any activity in Antarctica relating to mineral resources.[267]

Article 8 introduces the notion that all proposed activities in the Antarctic are subject to a prior environmental impact assessment, the procedures relating thereto being set out in more detail in Annex I.

Article 11 establishes the Committee for Environmental Protection, which represented a significant development in establishing permanent Antarctic Treaty infrastructure.[268] Aside from the representatives of the contracting parties, the CEP also consists of the President of SCAR and the Chairman of the Scientific Committee for CCAMLR, albeit only with observer status. Article 12 then sets out the function of the CEP which is, as an expert body, "to provide advice and formulate recommendations to the Parties in connection with the implementation of [the] Protocol."[269]

Article 15 makes provision for the creation of plans and strategies for responding to environmental emergencies, in keeping with the ATCPs' record over the years of anticipatory action.[270]

Article 16, significantly, envisages the development of a regime of liability for damage caused to the Antarctic environment and its associated ecosystems. This was envisaged to form part of the Annexes to the Protocol, and indeed Annex VI: Liability Arising from Environmental Emergencies has subsequently been formulated in this regard. While liability for environmental damage was not been mentioned by the CEP as one of the core principles of the Protocol in its summary of the first 25 years of the CEP, this is not because liability for environmental damage is not a core principle but, more likely, simply because it has not yet been achieved. It took 13 years before Annex VI was adopted in 2005[271] and it is yet to enter into force.[272]

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[266] "Activities shall be planned and conducted in the Antarctic Treaty area so as to accord priority to scientific research and to preserve the value of Antarctica as an area for the conduct of such research, including research essential to understanding the global environment." Article 3 (3).
[267] "Any activity relating to mineral resources, other than scientific research, shall be prohibited." Article 7 Madrid Protocol.
[268] Established before the creation of the Secretariat, the CEP was the first permanent body created within the AT. SCAR exists independently of the Antarctic Treaty and the Scientific Committee for the Conservation of Antarctic Marine Living Resources is, technically, part of a separate Convention, albeit one that forms part of the ATS.
[269] Article 12(1).
[270] "The Antarctic regulatory approach, reflected in the development of the ATS, has historically been, at the strategic level, to negotiate responses ahead of, or close to, the commencement of activities in the region. Hemmings AD, "Liability postponed: the failure to bring Annex VI of the Madrid Protocol into force" The *Polar Journal* 2018 8 (2), 315-332, pg. 318.
[271] Ibid pg. 317.
[272] Hemmings, writing in 2018, was not hopeful that this would be achieved soon. Hemmings op cit note 269 pg. 317. Indeed, at the time of writing, it still hasn't been.

The procedural and administrative aspects of the Protocol are dealt with in the remaining articles. These include several relevant and important requirements, for example, the requirement in Article 13(1) that;

> "Each Party shall take appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures, to ensure compliance with this Protocol."[273]

The Annexes to the Protocol include:

ANNEX I: Environmental Impact Assessment, which sets out the assessment procedures for environmental impact assessments to be done before the commencement of any proposed activities.

ANNEX II: Conservation of Antarctic Fauna and Flora which supersedes the Agreed Measures for the Conservation of Antarctic Fauna and Flora and contains, and elaborates on, many of the original measures, including requiring permits for any harmful interaction with Antarctic fauna or flora, the designation of Antarctic 'Specially Protected Species' and the prohibition of the introduction of non-native species.

ANNEX III: Waste Disposal and Waste Management which regulates waste management, waste removal, the cleaning up of historic waste and the prohibition of the importation/use of particularly harmful products.

ANNEX IV: Prevention of Marine Pollution which prohibits noxious discharge and other garbage from ships[274] and makes provision for ATCPs to prepare plans to cope with marine pollution emergencies.[275]

ANNEX V: Area Protection and Management which establishes Antarctic Specially Protected Areas (to "protect outstanding environmental, scientific, historic, aesthetic or wilderness values") and Antarctic Specially Managed Areas (to "…assist in the planning and co-ordination of activities, avoid possible conflicts, improve cooperation between Parties or minimise environmental impacts") as well as designating Historic Sites or Monuments to protect their historic value.

[273] Article 13(1) of the protocol. This effectively requires each signatory state to pass legislation to "give effect to the environmental protection measures of the protocol relating to activities of their national programs and citizens while in Antarctica." Klekociuk & Wienecke op cit note 216 pg. 6.
[274] It is broadly consistent with the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL 73/78).
[275] Committee for Environmental Protection "25 Years of the Protocol on Environmental Protection to the Antarctic Treaty" Secretariat of the Antarctic Treaty, Buenos Aires 2016, pg. 10.

ANNEX VI: Liability Arising from Environmental Emergencies which, as mentioned above, aims to introduce a system of liability for environmental emergencies (and consequent damage) as well as outlining "arrangements to prevent and respond to environmental emergencies … arising from scientific research programs, tourism and other governmental and non-governmental activities."[276] It is not yet in force and some have grave doubts that it will happen in the near future, or at all.[277] Of course, this failure raises a number of issues, not the least of which are the questions of how committed the ATCPs actually are to environmental protection, when there is a discernible financial impact[278] unrelated to resource extraction (including the value of scientific research itself) and whether the growing number of ATCPs, while positive in the sense that it shows the universality and strength of the ATS, is not hampering the development of effective environmental strategies.[279]

2.11.3.2 The Importance of Antarctica's Environment

The centralisation of Antarctic environmental protection is a direct response to a growing recognition of the now incontrovertible truth that Antarctica stands at the centre of the world's planetary health. The environmental health of Antarctica is a vital component of the world's environmental health, its climate systems, its weather systems, the health of its oceans and its biodiversity. In other words, it lies physically at the core of the planet's future health. It has long been known that the Southern Ocean plays a vital role in the health of the worlds' oceans both in the regulation of oceanic temperatures, carbon dioxide absorption and through the export of cold Antarctic bottom water and nutrients.[280]

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[276] Committee for Environmental Protection "25 Years of the Protocol on Environmental Protection to the Antarctic Treaty" Secretariat of the Antarctic Treaty, Buenos Aires 2016, pg. 11.
[277] Hemmings views the "…inability to bring even the first element of the long-sought Antarctic Liability regime into force after such a long gestation period [as] surely the greatest failure of the whole Madrid Protocol project." Hemmings op cit note 269 pg. 330.
[278] "There has seemingly been a reluctance on the part of ATCPs to see the ATS assume the responsibilities and costs of operating in Antarctica under the Madrid Protocol." Hemmings op cit note 269 pg. 328.
[279] See, generally, Hemmings op cit note 269 pgs. 315-332.
[280] "The Southern Ocean comprises 9.6 per cent of the world's oceans and makes a significant contribution to global ocean health and processes though the transfer of heat and carbon dioxide to the deep ocean and primary production, including the export of nutrients." Scott KN, "MPAs in the Southern Ocean under CCAMLR: Implementing SDG 14.5" *The Korean Journal of International and Comparative Law* 2021 9 (1) 84-107. Also, "The continent and the Southern Ocean play a well-documented central role in the global climate system and the effects of global warming will have dramatic and far-reaching consequences regionally as well as for the rest of the planet: the Thwaites Glacier in West Antarctica alone holds enough ice to add 65 centimetres to global sea levels. ... Further, global warming seems to affect the Southern Ocean's role as a gigantic carbon sink, with the Antarctic Circumpolar Current, a planetary conveyor belt connecting all oceans, increasingly releasing centuries-old carbon from the deep sea." Flamm P & Hemmings AD, "Now and Never: Banning Hydrocarbon Extraction in Antarctica Forever", GIGA Focus Global, 2022 1, Hamburg: German Institute for Global and Area Studies (GIGA), https://doi.org/10.57671/gfgl-22012 pg. 4. Generally, with regard to the effect of climate change see Blunden, J and Arndt DS, (Eds), "State of the Climate in 2019" *Bulletin of the American Meteorological Society* 2020 101 (8), Si–S429, and especially Chown, SL, Leihy, RI, Naish, TR, Brooks, CM, Convey, P, Henley, BJ, Mackintosh, AN, Phillips, LM, Kennicutt, MC II & Grant, SM (Eds.) (2022) Antarctic Climate Change and the Environment: A Decadal Synopsis and Recommendations for Action. Scientific Committee on Antarctic Research, Cambridge, United Kingdom. www.scar.org.

But its importance is far more pervasive and as well as the role it plays in the regulation of the planet's temperature and heat balance, it also serves as a baseline for atmosphere chemistry because of the cleanliness of its air and because of the importance of its biodiversity in relation to the food web and carbon storage. Furthermore it also provides a window into how these planetary health systems work as well as providing the best measure of the state of the planet's health. It also provides one of the most important locations for the performance of science and conducting research into most of the aforementioned critical areas.

It follows, therefore, that damaging the Antarctic environment will have a negative effect in all of these areas. The impact of climate change is noted so not only with regard to the impact on the world's weather systems, escalating the climate change cycle, ocean acidification, sea level rise, species extinction and many related negative impacts.

2.12 A challenge to the legitimacy of the ATS: the UN and the Question of Antarctica

Despite this later history of cooperation, or perhaps because of the early history of discovery, exploitation, territorial sovereignty claims together with the extremely elite nature of this later cooperation, there have been questions around the legitimacy of the ATS. As far back as the first proposal by the United States to develop a system of governance or management of the Antarctic, (a multiple condominium of ownership in 1948 and a UN trusteeship early 1950s), there has been resistance, criticism and counter proposals. India, for example, mooted the possibility of placing Antarctica under the care of the United Nations[281] and other organisations also made proposals for the governance of the continent.[282] These, however, were soon side-lined with the negotiation, and implementation, of the AT. However, the creation of the Antarctic Treaty did not solve all the issues surrounding Antarctica in perpetuity and by the 1980s the governance of Antarctica was back on the world stage. The requirement that to become a Consultative Party, a country needed to conduct "substantial scientific research activity" in Antarctica meant that Consultative Party status membership of the Antarctic Treaty was difficult to obtain (almost impossible for countries without the financial resources) and as a result for the first two decades of its existence the Antarctic Treaty did not see a significant growth in CP membership. Poland achieved CP status in 1977 and by 1985 only a further 5 countries[283] had managed to do the same. The negotiation of a treaty (CRAMRA) in the 1980s to manage Antarctica's mineral resources shone a light firmly on the issues of access to, control of, exploitation of, and the economic benefit to be derived from, these mineral riches. This meant that many countries previously unconcerned with Antarctica now

[281] India proposed referring the issue of Antarctic to the United Nations General Assembly, twice, arguing that any claims to sovereignty were inherently colonial in nature and that broader participation was necessary, in the form of a United Nations Trust Territory.
[282] UNESCO suggested creating an International Antarctic Research Institute focusing on scientific research in Antarctica, possibly under the control of the UN.
[283] Germany, 1981, Brazil, 1983, India, 1983, China, 1985 and Uruguay, 1985. Grolin J "The Question of Antarctica and the Problem of Sovereignty" *International Relations* 1987 9 (1) 39-55.

focused their attention on it. As Beck notes, motivated ostensibly by environmental concern, but in reality by a determination not to be denied the opportunity to share in these resources,[284] countries soon mobilised against the, correctly, perceived control of Antarctica by a small and exclusive group of nations. Interest groups like the Non-Aligned Movement (NAM), the Organisation of African Unity (OAU) and the Caribbean Community and Common Market (Caricom)[285] focused attention on several aspects of Antarctic governance, including, as Beck points out,

> "…a growing awareness of its resource potential, the desire of developing countries to share in the resources and management of the area in the light of changing legal and political attitudes related to the New International Economic Order and common heritage principles …"[286]

This coincided with the emergence of the "Common Heritage of Mankind" principle being developed with regard to the UN lead negotiations on the Law of the Sea (LoS) which lent impetus to the renewed focus on Antarctica. Unable (or unwilling) to join the ATS, and led by Malaysia,[287] several countries[288] placed the Question of Antarctica on the United Nations General Assembly Agenda in 1983. The United Nations duly adopted a resolution, UNGA Resolution 38/77 of 15 December 1983, in which it, inter alia, requested

> "…the Secretary-General to prepare a comprehensive, factual and objective study on all aspects of Antarctica, taking fully into account the Antarctic Treaty system and other relevant factors,"[289]

and duly enrolled the matter on the provisional agenda for the following year. By 1986 this resolution had developed into two parts: firstly, requesting the ATCPs to report to the United Nations on an ongoing basis,[290] and secondly, being conscious of the negotiation by the ATCPs of a minerals regime, to both place a moratorium on the negotiations until developing nations could become party to them, and (in a somewhat contradictory manner)

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[284] Malaysia's PM's at the time, Dr Mahathir, is reported to have said "If there are resources to be extracted, the whole world is entitled to benefit." Hamzah, BA "Malaysia and the 1959 Antarctic Treaty: a geopolitical interpretation" *The Polar Journal* 2011 1 (2) 287–300.
[285] Beck PJ, "The Antarctic Treaty System after 25 years" The World Today, 1986 42 (11), pg. 198.
[286] Ibid.
[287] Malaysia, and its Prime Minister Dr Mahathir, in particular was an outspoken critic of the ATS, calling it a "gentleman's club" and a relic of colonialism. Beck PJ, "Twenty years on: the UN and the 'Question of Antarctica,' 1983-2003", *The Polar Record*, 2004 40 (3) (214), 205-212. See also Beck PJ, "Keeping Conflict on Ice", History Today, ProQuest Research Library 2009. Beck PJ, "The United Nations and Antarctica, 2005: The end of the 'Question of Antarctica'?" *Polar Record* 2006, 42 (3), 217-227.
[288] Antigua and Barbuda. Auburn FM, "Aspects of the Antarctic Treaty System" Archiv Des Völkerrechts, 1988 26 (2) 203–215, pg. 207. According to Beck "…several third-world governments led by Malaysia, Antigua and Barbuda, Ghana, Nigeria, Pakistan and Tanzania have interpreted Antarctica as a suitable case for treatment by the UN, and especially as an appropriate area for the application of the common heritage principle, such as embodied in article 136 of UNCLOS." Beck op cit note 284 pg. 198.
[289] UNGA 38/77 1983.
[290] "1 Requests the Antarctic Treaty Consultative Parties to keep the Secretary-General fully informed on all aspects of the question of Antarctica so that the United Nations could function as the central repository of all such information;" UN General Assembly, Question of Antarctica, 4 December 1986, A/RES/41/88, available at: https://www.refworld.org/docid/3b00f003c.html. March 2020.

to ensure that any such minerals regime makes for the "equitable sharing of benefits".[291] Both parts were thereafter carried forward each year[292] and the Question of Antarctica was subsequently debated annually (initially) by the General Assembly for the next two decades.

The Question of Antarctica (Q of A) undoubtedly had a profound impact on the ATS – it divided the UNGA[293] and focused a considerable amount of attention on Antarctica. The reports compiled by the Secretary General were, for the most part, coherent, relatively insightful and not always critical, recognising the profoundly important role the CPs had played in successfully protecting Antarctica to date.[294] The motivation behind the Q of A is less exemplary. Driven and led by Malaysia the campaign seemed more to reflect the personal views of one individual, the Malaysian Prime Minister, Dr Mahathir, rather than a genuine concern with the Antarctic environment. As Jayaseelan notes, "It can be argued that the Question of Antarctica of 1982/3 was not a case of Mahathir raising an issue of environmental protection or anti-mineral mining, but more of an issue of not taking the 'lesser' countries for granted."[295] In addition,

> "…the Question of Antarctica which was raised had a lot more to do with Malaysia's and its then Prime Minister's desire to be noticed on the world stage than any strong desire to better protect or manage Antarctica itself. He was of the opinion that the issue raised provided a vehicle to generate visibility for Malaysia."[296]

As has been noted,

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[291] "1. Reaffirms that any exploitation of the resources of Antarctica should ensure the maintenance of international peace and security in Antarctica, the protection of its environment, the non-appropriation and conservation of its resources and the international management and equitable sharing of the benefits of such exploitation;
2. Calls upon the Antarctic Treaty Consultative Parties to impose a moratorium on the negotiations to establish a minerals regime until such time as all members of the international community can participate fully in such negotiations;" UN General Assembly, Question of Antarctica, 4 December 1986, A/RES/41/88, available at: https://www.refworld.org/docid/3b00f003c.html. March 2020.

[292] By 1986, the resolution specifically and explicitly acknowledged the influence of the "Political Declaration adopted at the Eighth Conference of Heads of State or Government of Non-Aligned Countries, held at Harare from 1 to 6 September 1986, and the resolution on Antarctica adopted by the Council of Ministers of the Organization of African Unity at its forty-second ordinary session, held at Addis Ababa from 10 to 17 July 1985, as well as the decision of the Council of Ministers of the League of Arab States held at Tunis on 17 and 18 September 1986." UN General Assembly, Question of Antarctica, 4 December 1986, A/RES/41/88, available at: https://www.refworld.org/docid/3b00f003c.html. Accessed 15 March 2020.

[293] "However, consensus broke down during November-December 1985, when three resolutions were adopted by the First Committee and Assembly by votes of between 78-100 in the face of the opposition of the Antarctic Treaty powers, whose irritation about both the content of the resolutions and the continuing intervention of the UN in the affairs of an area administered already by a valid legal arrangement caused them to register disapproval by not participating in the votes." Beck op cit note 284 pg. 198.

[294] "The first UN study, comprising 116 pages and accompanied by three documentary volumes, appeared in October 1984, when it offered an up-to-date, informed and concise account of the Antarctic scene. It ranged over arguments both for and against the ATS as a system of management, and subsequently proved a basic point of reference not only for future First Committee discussions but also for a further study published in November 1986." Beck op cit note 166 pgs. 285-91

[295] Jayaseelan S, "Development of Malaysia's position in Antarctica: 1983 to 2017" *The Polar Journal* 2019 9 (1) 214-235, pg. 217.

[296] Ibid.

> "…there was no reason why Malaysia could not have, at that point, set out to engage with the existing Antarctic Treaty System, knowing for a fact that the UN itself is not a body that sets out to either absorb or nullify international treaties that are developed outside its activities."[297]

Indeed, and often overlooked, at the time of placing the Question of Antarctica on the UNGA agenda, in addition to the original 12 CPs, Poland, Germany, India and Brazil had already become CPs and a further 10 had acceded to the Treaty as Non-consultative Party members.[298] A further 4 joined the following year.[299] The Treaty was thus clearly accessible to those countries who ascribed to its core principles of peace, non-militarisation and scientific research to become members, albeit non-voting members.[300] Malaysia, however, regarded this two-tier system of membership as illegitimate,[301] overlooking the fact that the UN itself, which it sought to use to replace the ATS, is an institution riddled with tiers of membership, power and control.[302]

Malaysia simply "disregarded the assertion of the Consultative Parties that they have managed Antarctica in the interest of mankind."[303] Clearly it was not the substantive management of Antarctic and the achievements to date that Malaysia was concerned with. What Malaysia objected to was not being in control over Antarctica. In fact, the objection appeared to be even more fundamental. Malaysia objected to the nations which were in control, being in control.[304]

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[297] Ibid.

[298] Czechoslovakia, Denmark, The Netherlands, Romania, the GDR, Bulgaria, Peru, Papua New Guinea, and Spain.

[299] Hungary, Sweden, Finland and Cuba.

[300] Only countries that could afford to engage in scientific research are admitted to the upper tier of decision-making parties.

[301] Somewhat ironically, Malaysia, refusing to join a treaty to which it could voluntarily subscribe, criticised its legitimacy on the basis that "not all states of the world are a part of the Antarctic Treaty System and therefore it is not a legitimate body to make a decision on a continent that belongs to all." Jayaseelan op cit note 294 pg. 218. Of course, on the basis of this rather infantile argument, even if all states did join, and Malaysia did not, the ATS would still lack legitimacy until Malaysia joined. Effectively a single state veto on the system's legitimacy – the antithesis of international diplomacy and indeed the very democratic principles Mahathir appeared to espouse.

[302] Mahathir, somewhat hypocritically, seemed to accept the multi-tier system in the UN, saying that the veto power of the 5 Security Council members was necessary "in order for it to work". Jayaseelan op cit note 294 pg. 218. Ironically, by 1985 all 5 veto holding Security Council members were members of the Antarctic Treaty with Consultative Party status, 4 as founding members from the outset of the Treaty – the USA, Russia, Britain and France – and China since 1985. For more thoughts on the illegitimacy of the two-tier system of membership see Yermakova's Doctoral dissertation in which she states that the "two-tier system is connected to lack of participation and contestation" at pg. 64, that it "effectively excludes most states in the world from the decision-making", at pg. 66 and specifically, that "it is a two-tier system that effectively excludes poor countries." at pg. 94. Yermakova op cit note 18 pgs. 64, 66 & 94. She also notes that the ATS "still remains a 'collective hegemony' that reinforces some states to remain 'second class citizens'." Yermakova op cit note 11, pg. 354, quoting Brady A-M China as a Polar Great Power, Cambridge, Cambridge University Press, 2017, pg. 198.

[303] Jayaseelan op cit note 294 pg. 218.

[304] "Prime Minister of Malaysia Mahathir Mohamed ... called the Antarctic Treaty 'an agreement between a select group of countries'" United Nations, "United Nations General Assembly 37th Session." Yermakova op cit note 18 pg. 4.

The significance of the Question of Antarctica being placed on the UNGA agenda for South Africa lay in the fact that in 1985, shortly after the Question of Antarctica was first raised at the United Nations, under UNGA Resolution 40/156, the UN added South Africa's Antarctic participation to the Question of Antarctica.

> The General Assembly,
> Having considered the item entitled "Question of Antarctica",
> Noting with regret that the racist apartheid regime of South Africa, which has been suspended from participation in the General Assembly of the United Nations, is a Consultative Party to the Antarctic Treaty,
> Recalling the interest of African States in Antarctica as shown by the resolution adopted by the Council of Ministers of the Organization of African Unity at its forty-second ordinary session, held at Addis Ababa from 10 to 17 July 1985,
> Recalling further that the Antarctic Treaty is, by its terms, intended to further the purposes and principles embodied in the Charter of the United Nations,
> 1. Views with concern the continued status of the apartheid regime of South Africa as a Consultative Party to the Antarctic Treaty;
> 2. Urges the Antarctic Treaty Consultative Parties to exclude the racist apartheid regime of South Africa from participation in the meetings of the Consultative Parties at the earliest possible date;
> 3. Invites the States parties to the Antarctic Treaty to inform the Secretary-General on the actions taken regarding the provisions of the present resolution."[305]

This item was also carried forward and by the following year South Africa's participation in the Antarctic Treaty, which specifically preserves Antarctica as a military free and nuclear-weapon-free zone (both articles championed by South Africa[306]) was deemed to constitute "a threat to regional and international peace and security."

> "Recalling its resolution 40/156 C of 16 December 1985,
> Having considered the item entitled "Question of Antarctica",
> Noting with regret that the racist apartheid regime of South Africa, which has been suspended from participation in the General Assembly of the United Nations, has continued to participate in the meetings of the Antarctic Treaty Consultative Parties,
> …
> Noting further that the policy of apartheid practised by the racist minority regime of South Africa, which has been universally condemned, constitutes a threat to regional and international peace and security,
> 1. Views with concern the continuing participation of the apartheid regime of South Africa in the meetings of the Antarctic Treaty Consultative Parties;

[305] UNGA Resolution 40/156 C of 1985.
[306] Dodds notes that South Africa "had argued strongly in favour of retaining the demilitarised status of the Antarctic." Dodds KJ, South Africa: Implementing the Protocol on Environmental Protection, in Vidas D, (ed.) Implementing the Environmental Protection Regime for the Antarctic. Environment & Policy, 28. Dordrecht, Springer, 2000, pg. 401.

2. Appeals once again to the Antarctic Treaty Consultative Parties to take urgent measures to exclude the racist apartheid regime of South Africa from participation in the meetings of the Consultative Parties at the earliest possible date;
3. Invites the States parties to the Antarctic Treaty to inform the Secretary-General on the actions taken regarding the provisions of the present resolution …"[307]

Much has been written about the UN's position on South Africa's participation in Antarctica,[308] not all of it coherent or rational.[309] None of it is particularly relevant to this thesis; however, the fact that the resolution was adopted and the manner in which it was used do disclose a number of interesting factors. Firstly, as Dodds notes, the tenacity with which South Africa held onto its status as a CP in the face of this resolution is "an important indication of the importance to which South Africa attaches involvement in that system."[310] Secondly, it offers some insight into the values and objectives of the countries behind the resolution. Both Dodds and Beck, respected geopolitical Antarctic experts, have remarked about this, Dodds noting that an

> "…intriguing aspect of the controversy has been how countries with few existing interests in the polar regions used the issue of apartheid … to criticise the international management system of the Antarctic."[311]

Beck is no less kind, noting

> "One of the by-products of the recent international debate about the Antarctic Treaty System has been the enhanced intrusions of political considerations, and during 1983 Caribbean and African governments combined to introduce a new dimension into the discussion in the form of an attack upon the participation of South Africa, a founder member of the system. This element permitted not only a further development of the anti-treaty argument but also an aspect capable of attracting the support of other governments more concerned to condemn South Africa than to consider the future interests of Antarctica."[312]

[307] UNGA Resolution 41/88 of 1986.
[308] "The arguments against South Africa's participation in the ATS have been addressed in the academic and popular literature." Dodds KJ, "South Africa and the Antarctic, 1920-1960" *Polar Record* 1996 32 (180) 25-42, pg. 38, referring to de Wit MJ, "Reshaping the Antarctic Treaty, with implications for South Africa" *International Affairs Bulletin* 1985 9 (2) 44-58 and Suter K, "Antarctica: private property or public heritage?" London, Pluto Press, 1991.
[309] Beck notes that "The situation is further complicated by the fact that many critics approach Antarctic debates in a relatively uninformed and prejudiced manner; thus, South African participation in the treaty system is condemned for apartheid reasons regardless of the merit of the treaty's controls upon that government's activities in Antarctica." Beck op cit note 284 pg. 199.
[310] "Far from being irrelevant, the campaign to remove South Africa from the ATS implicitly acknowledged the diplomatic and scientific importance of the ATS to South Africa." Dodds op cit note 307 pg. 38.
[311] Ibid.
[312] Beck op cit note 228 pg. 284.

There is a slight irony in that the resolution itself explicitly acknowledges that "Antarctica should continue for ever to be used exclusively for peaceful purposes and that it should not become the scene or object of international discord" (which was quoted directly from the preamble to the Antarctic Treaty itself), yet it went on to do precisely that – to make it an object of international discord.[313] A greater irony is the fact that by adding the issue of South Africa's membership of the ATS to the resolution, the UN was effectively trying to remove South Africa from a negotiated treaty system which it, at the same time, was seeking to undermine and replace.

It became clear that, motivated by an interest in not being excluded from the exploitation of Antarctica's mineral wealth (and buoyed by a shared antagonism for South Africa), Antarctica became a pawn in a larger political game. The challenge by the NAM and OAU to the existing world geopolitical order and to the concentration of access to and control of global wealth and resources found, in the ATS, an almost perfect example to use. However, some participants in the UNGA Q of A participated not from concern for Antarctica, or even on account of a possible share in mineral resource exploitation but because it was a vehicle for completely justifiable anti-apartheid activism. The UNGA resolution sought to use the ATS to attack South Africa, calling for its expulsion from the Treaty. It did not call for the dismantling of the Treaty *because* South Africa was a member. The call to dismantle ATS was because it stood in the way of an equitable share in commercial mineral exploitation, not because it persisted in maintaining South Africa as a member. No environmental or scientific concern or interest was evidenced at all in the substance of the resolutions. Indeed, once possible mineral exploitation was off the table through the Madrid Protocol ban in mining and minerals prospecting, and once the end of apartheid became apparent, African interest in Antarctica disappeared.

However, in the broader context of the Question of Antarctica as a whole and notwithstanding the somewhat questionable motives of some of the countries in joining the debate,[314] what was undeniable was the fact that many countries, and developing countries in particular, legitimately "felt excluded from the closed Antarctic decision-making process."[315] In addressing this issue the Malaysian intervention, notwithstanding its multiple deficiencies, was partially successful. Although the accession of India and China is often attributed to the Q of A, both India and China at least had acceded to the Treaty prior to the Resolution. India achieved CP status before the resolution and China achieved this in 1985. China had in fact been invited to participate in the 1957-1958 IGY/IPY, but had

[313] Leaving aside the irony of seeking to dismantle the Treaty in order to achieve an objective – the regulation of Antarctica for peaceful purposes - which is in fact the stated object of the very Treaty they were seeking to dismantle.
[314] Access to exploitation of mineral resources or the removal of South Africa, not the environmental protection of Antarctica.
[315] Beck op cit note 166 pg. 289. See also Foster MJ "The Question of Antarctica" *Environmental Policy and Law* 1985 14 (1) 2-4, pg. 2 "…the Antarctic Treaty is seen as being a closed community, in practice if not in theory. Even though the Treaty is open to accession by almost any state, admission to the status of Consultative Party is much more restricted."

declined due to a political impasse. It established a domestic research institute in 1966[316] and, after the turmoil of the Cultural Revolution, in the late 1970s become involved in joint scientific expeditions to Antarctica.[317] China then embarked on a programme to ensure full ATCP membership and "In 1981 China set up the National Antarctic Expedition Committee … to coordinate Antarctic research nationwide and facilitate cooperation with other countries."[318] These initiatives achieve the desired results and "China joined the ATS in 1983, became a consultative party to the treaty in 1985 … and joined the Scientific Committee for Antarctic Research (SCAR) in 1986."[319] Brady notes that by the time China joined the ATS it already had "35 scientists working in various international expedition teams on the Antarctic continent."[320]

It is thus not entirely true[321] to credit the Malaysian initiative with the most significant expansion of the ATS since its creation.[322] In fact, as Brady notes, joining the ATS "was not just advantageous for Beijing; it was also a coup for treaty members because it kept China from lending its support to the anti-treaty movement led by Malaysia."[323]

What it did achieve, however, was sustained pressure with regard to the minerals regime, which was in line with the stance adopted by numerous international environmental groups, the inadvertent consequence that the Consultative Parties became more closely united in the fact of the onslaught – "the challenge from outside merely reinforced the treaty powers' pre-existing sense of unity and commitment",[324] an even stronger determination to promote the principles of the AT,[325] support and further impetus for the creation of a secretariat, and a genuine change in attitude towards a more open and co-operative mind-

[316] The State Oceanic Administration which was established with "a brief to engage in work in Antarctica" Brady A-M, "China's Rise in Antarctica?" *Asian Survey* 201 50 (4), 759-785, pg. 761.
[317] "During the 1979–80 austral summer, two Chinese scientists joined the Australian Antarctic Research Expedition." Brady op cit note 315 pg. 762.
[318] Ibid.
[319] Ibid.
[320] Ibid.
[321] In fact, it is simply incorrect. Unfortunately, however, the view persists. "Eventually, it was decided by the Treaty parties to allow these countries [India and China] to join the Treaty system. Chaturvedi further added in the interview session that, 'This can be said as one of the achievements of the Malaysian intervention, it had opened up the system.'" Jayaseelan op cit note 294 pg. 219.
[322] It must not be forgotten that it was India that had first mooted the proposal that Antarctica be placed under the care and administration of the UN and thus the significance of India's election to accede to the Treaty and achieve full Consultative Party status should not go unremarked upon. Indeed, this election by India to work within the system instead of throwing its weight behind the dismantling of the system, along the lines it had itself proposed, was a resounding endorsement of the system.
[323] Brady op cit note 315 pg. 762.
[324] Beck op cit note 284 pg. 199. "In fact, the unanimity displayed by the treaty powers, such as between either the Soviet Union and the United States or Argentina and Britain, has offered an interesting demonstration of the cooperative possibilities of the Antarctic Treaty in respect to an extremely diverse range of signatories." Beck op cit note 284 pg. 198.
[325] "At the UN the Consultative and non-Consultative Parties have advocated consistently the positive benefits of the Antarctic Treaty System to the international community in general and to Antarctica in particular, and this campaign has been reinforced by a determined effort to refute the criticisms advanced by Malaysia and its supporters." Beck op cit note 284 pg. 198.

set on the part of the ATCPs with regard to opening up the ATS.[326] Co-operative scientific programmes between ATCP countries and non-treaty party countries became more common, accession was encouraged and non-treaty party countries were provided with a much greater degree of insight into the workings of the ATS.[327] Transparency had arrived.

Events, however, overtook the Question of Antarctica. CRAMRA, negotiated at considerable length, did not come into effect - it was essentially sabotaged by the decision of France and Australia, in 1989, not to sign it. It was replaced in 1991[328] by the Madrid Protocol.[329] Although it only actually came into effect in 1998, the Protocol contained a moratorium on all mineral activity (with an interim ban pending the implementation of the Protocol) which pulled the teeth of the second part of the Question of Antarctica, namely the demand to place the negotiation of a mineral regime on hold pending developing an equitable mineral resource sharing agreement. The Protocol itself, aside from the ban on mineral activity, was firmly dedicated to the preservation of Antarctica as "natural reserve, devoted to peace and science."[330] Although it did not go so far as to recognise that Antarctica was part of the Common Heritage of Mankind, something the Question of Antarctica ultimately aimed to achieve, it did state that "the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole."[331]

Further, whether it was because it was tied to the demand to dismantle the ATS, which was destined to fail, or because the demand was made for the collateral political mileage it brought with it, rather than a genuine interest in Antarctica, the UNGA was unable to succeed in achieving the expulsion of South Africa from the ATS. Here too, events overtook the Resolution. Nelson Mandela was released from prison in 1989 and South Africa embarked on a path towards democracy, which was achieved in April 1994, by which point the Resolution had become moribund. In fact, the calls for South Africa's expulsion had ceased even earlier and, as both Dodds and Beck note, "the ending of the calls for the expulsion of South Africa from the ATS actually predated the elections, thereby terminating a regular feature on UN resolutions between 1985-1992."[332]

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[326] "…there could also be seen a genuine sense of openness on the part of the ATCPs towards bringing Malaysia into the system. This is shown in the invitation to Malaysia by the ATCPs to join the Antarctica workshop in South Beardmore Camp in 1985, as well as an offer by the government of New Zealand to assist Malaysia in Antarctic scientific research in 1996." Jayaseelan op cit note 294 pg. 219.

[327] "In 2002, Malaysia was invited to attend the 25th ATCM in Warsaw, Poland to observe the on-goings of the meeting. This position provided to Malaysia as an observer was unprecedented and continued until 2011, when Malaysia signed the Antarctic Treaty and became a member of the ATCM" Jayaseelan op cit note 294 pg. 219.

[328] Signed in Madrid on the 4t October 1991. https://www.ats.aq/e/protocol.html. October 2020.

[329] "These two significant events i.e. the collapse of the CRAMRA and the signing of the Madrid Protocol helped to disqualify some of the allegations made by Malaysia with its Question of Antarctica." Jayaseelan op cit note 294 pg. 219.

[330] Article 2 of the Madrid Protocol.

[331] Preamble to the Madrid Protocol.

[332] Dodds KJ, "South Africa, the South Atlantic, and the International Politics of Antarctica" South African Journal of International Affairs 1995 3 (1), pg. 74. Also Dodds op cit note 307 pg. 40; Beck PJ, "The United Nations and Antarctica 1993: continuing controversy about the UN's role in Antarctica" *Polar Record* 1994 30 (175) 257-264, pg. 260 and Beck PJ, "The United Nations and Antarctica, 1992: Still searching for that elusive convergence of view" *Polar Record* 1993 29 (171), 313-320.

Notwithstanding the Resolution aimed at removing the ATS, countries continued to accede to the AT. In the 1980's, subsequent to the UNGA Resolution in December 1983, a further 11 countries acceded to the AT, bringing the total of new countries joining in that decade alone to 18. A further 7 acceded in the 1990s, and 4 more before 2011.[333] The Question of Antarctica was steadily losing ground. By 1992 the South African expulsion resolution had been dropped and by 2003 the ATCPs had created an Antarctic Secretariat,[334] another of the deficiencies criticised in the Question of Antarctica. Ongoing accessions to the Antarctic Treaty had brought the percentage of the world's population that was represented nationally within the ATS to 66% by 2017,[335] although some estimate that this figure is as a high as 80%.[336]

This gradual loss of traction was reflected in the fact that initially debated annually, the Question of Antarctica became a biennial debate, and eventually triennial. Malaysia itself was no longer committed to it.[337] The final nail in the coffin, so to speak, was the dramatic about-turn by Malaysia in 2004, when it not only became a member of SCAR, but announced its intention to accede to the AT. By 2005 it was unanimously agreed by the UNGA to suspend the Question of Antarctica.[338] The lessons learned, however, should not be ignored.

2.13 Conclusion

The growth of the ATS has been considerable within a relatively short time-frame. From the 12 contracting parties present in 1959, it now comprises 29 contracting Consultative Parties and 29 contracting non-consultative parties.[339] Support for the ATS is evident in the statistics often cited that, although the contracting parties (consultative and non-consultative) only constitute an approximate quarter of the total state membership of the United Nations, they represent 66% of the world's total population.[340] Also, every continent

[333] Several more have joined since.
[334] The Secretariat was created by Measure 1 (2003), adopted by the XXVI Antarctic Treaty Consultative Meeting. https://www.ats.aq/e/secretariat.html. October 2020.
[335] "The Antarctic Treaty parties represent 66 per cent of the whole world population and Consultative Parties account for 58 per cent." Ferrada op cit note 166 pg. 91.
[336] "There are now 52 countries that have signed the Antarctic Treaty - which represent about 80% of the world's population." https://www.coolantarctica.com/Antarctica%20fact%20file/science/government_antarctica.php. May 2021, although this number has since increased to 58. See note 329 below.
[337] For Malaysia, the ATCPs' decision to suspend CRAMRA and embrace the Madrid Protocol had a double effect. It also provided a good exit strategy for its diplomatic initiative at the UNGA.
[338] "The UNGA agenda on 'Question of Antarctica' was suspended in 2005, agreed upon by all UN members, including Malaysia." Jayaseelan op cit note 294 pg. 221.
[339] https://www.ats.aq/devAS/Parties?lang=e. November 2023. "On 14 February 2023, the Republic of San Marino deposited its instrument of accession to the Depositary Government of the Antarctic Treaty, making it the 56th Party to the Antarctic Treaty and 27th Non-Consultative Party." https://www.ats.aq/devph/en/news/234. April 2023. Saudi Arabia acceded to the ATS in May 2024 and the United Arab Emirates joined in December 2024. The Antarctic Secretariat. https://www.ats.aq/devAS/Parties?lang=e. February 2025.
[340] "The Antarctic Treaty parties represent 66 per cent of the whole world population." Ferrada op cit note 166 pg. 91. "Together these Antarctic Treaty nations represent about two-thirds of the world's human population." IAATO https://iaato.org/about-iaato/the-antarctic-treaty/. July 2024. The British Antarctic Survey makes the

is represented, and the contracting parties produce 86% of the world's GDP.[341] This is, however, a somewhat misleading picture. The current status of Antarctica, despite such support, is not without its negative aspects, many of which were highlighted by the Question of Antarctica. Only the Consultative Parties have any real power and thus, while all the parties may represent 66% of the world's population, only the populations of the 29 Consultative Parties, less than 55% of the world's population,[342] are actually represented in Antarctic governance. Africa may be represented but South Africa is the only member country from the whole of the African continent. Africa alone therefore accounts for 18% of the world's population that is unrepresented in Antarctic governance.[343] South Africa, as one of the founding parties, obtained membership through what was then a minority white governed, apartheid state. The absence and lack of participation by the rest of Africa, a large portion of the world's population and a significant number of states, is a glaring omission in the management of Antarctica. Notions of participation and refusal, a lack of inclusion, an unwillingness based on the current terms, as well as the financial restraints on meeting the requirements do not imply that Africa has little or no interest in Antarctica's preservation, environmental security or in the exploitation of the untapped wealth and resources that Antarctica might offer.

This thesis has referenced the "exclusive and elite club" tag,[344] the perceived exclusion of poorer and developing nations,[345] and the resistance to the "colonial" mindset of the original contracting parties[346] (particularly those claiming sovereignty – almost entirely on the same basis, and by many of the same nations - as had previously colonised other nations in the developing world). The journey of the ATS to its present state has therefore not been entirely smooth. The UN Question of Antarctica highlighted the existence of a deep mistrust among developing and/or marginalised nations about the motives of those claiming to govern Antarctica. It also demonstrated precisely how excluded the vast majority of the world's nations were from any participation in the government of Antarctica. The ATS initially responded well to the challenges and survived them, emerging as a stronger, more diverse and more conservation-orientated system. It adapted to include its greatest detractors,[347] bringing them on board through a greater emphasis on environmental

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claim that this is as high as 80% (though it seems to believe that there are only 46 members). "Forty six countries, comprising around 80% of the world's population, have acceded to it." https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/. July 2024.

[341] "86 per cent of the world's GDP is produced by the Antarctic Treaty parties." Ferrada op cit note 166 pg. 91.

[342] 55.84%. Date extrapolated from https://www.worldometers.info/. https://www.worldometers.info/world-population/population-by-country/. July 2024

[343] https://www.worldometers.info/world-population/africa-population/#google_vignette. July 2024.

[344] See comments about Malaysia's subsequent tabling of the Question of Antarctica on the UN Agenda, "…arguing that it comprised a closed 'club' of states." Rothwell op cit note 7 pg. 9.

[345] See Malaysia's comments above, and China's comments about resource exploitation. See also the stance taken by Bricks nations and African developing nations.

[346] See comments about India's stance immediately prior to the negotiation of the Antarctic Treaty, and to Malaysia's subsequent tabling of Antarctica on the UN Agenda.

[347] India, China and Malaysia, to name a few, which, at varying stages have been outspoken critics of the Antarctic Treaty and ATS, and which represent a significant proportion of the world's populace, have all signed and, through committed involvement in research, have become Consultative Parties. Pakistan, though less vocal in its criticism, has likewise become a consultative party.

protection and offering of a share in controlled resource exploitation (both living resource exploitation and the exploitation of Antarctica as a dedicated scientific research resource). However, the ATS is not perfect, and questions are still being raised about whether it has gone far enough, whether it is running the risk of becoming increasingly moribund and ineffective[348] as the failure to complete the Madrid Protocol demonstrates,[349] and whether it is, again, beginning to lose legitimacy as a result of its lack of representivity. Facing criticism from international environmental organisations, concerns remain about the ATS's ability to protect Antarctica in the future, based on present achievements.[350]

[348] Hemmings notes that the difficulty the ATCPs now seem to have in finding "common purpose" is "… a wider problem in relation to the ATCP's self-assumed duty of care in relation to 'protection of the Antarctic environment and dependent and associated ecosystems'." Hemmings op cit note 269 pg. 330.
[349] Hemmings notes "... the general reluctance of ATCPs, post-Madrid Protocol, to assume further legally binding obligations – reflected in the restriction of new Measures to the relatively innocuous Protected Areas designations, and the failure to bring earlier Measures concerning other matters [into force]." Hemmings op cit note 269 pg. 330.
[350] Leihy RI, Coetzee BWT, Morgan F, Raymond B, Shaw JD, Terauds A, Bastmeijer K, & Chown SL, "Antarctica's wilderness fails to capture continent's biodiversity", *Nature* 2020 583 (7817) 567-571.

Chapter 3 South Africa's historical Involvement in Antarctica & the ATS

3.1 Introduction

South African involvement in Antarctica did not start with the AT, as indeed it could not have, given that only countries already scientifically 'active' in Antarctica during the IGY/IPY were invited to participate in the creation of the AT. However, it goes much further back than this. South Africa has been, by turns, peripherally involved and directly involved in the history of Antarctica since before Antarctica was discovered.[351] South African involvement incudes indirect involvement in discovery and exploration, direct involvement in commercial resource exploitation (inter alia, sealing and whaling), direct involvement in a range of different ways in scientific research (inter alia, geological research - tectonic plate movement, meteorological research, biological research etc.) and both direct and indirect involvement in the broader geopolitical issues surrounding Antarctica (including, inter alia, being used as a possible proxy territorial claimant – alongside Australia and New Zealand - by the UK and becoming a part of the cold war tensions from which Antarctica was not immune).

3.2 The Age of pre-Antarctic exploration

Prior to the discovery of Antarctica,[352] let alone the exploration thereof, South Africa, or more specifically the Cape Colony,[353] was a convenient and much used, and often last, port of call in many of the exploratory expeditions setting out in search of the, as yet undiscovered, southern continent.[354] M M Marion du Fresne on Le Mascarin and Le Marquis de Castries,[355] sailed from Cape Town in 1772 (and on 13 January re-discovered the

[351] South Africa's historical involvement in Antarctica has been thoroughly and well described, discussed, reviewed and analysed in several excellent texts by a number of erudite scholars. Cooper J, & Headland RK, "A history of South African involvement in Antarctica and at the Prince Edward Islands" *South African Journal of Antarctic Research*, 1991 21 (2); Glazewski J, "South Africa and the Southern Polar Region: A Reflection on the Past, the Present, and Future Prospects" *Yearbook of International Environmental Law* 2009 20 (1) 88-121, pg. 97; Van der Watt L-M & Swart S "Falling off the Map: South Africa, Antarctica and Empire, c. 1919–59" *The Journal of Imperial and Commonwealth History* 2015 (3) 2, 267-291; Dodds op cit note 307 pgs. 25-42; Sidiropoulos E, & Wheeler T, To the ends of the earth: Antarctica, the Antarctic Treaty and South Africa, SAIIA Research Report 23, 2016, South African Institute of International Affairs (SAIIA).

[352] "South Africa's involvement with the Antarctic continent and the sub-Antarctic Prince Edward Islands can be said to have commenced with the first explorations of the southern seas." See Cooper & Headland op cit note 350 pg. 77.

[353] Following the National Convention, initiated in 1908 in Durban, The Union of South Africa, created by the South Africa Act of 1909, formally came into existence only in 1910.

[354] "This early involvement was indirect in nature and was primarily due to the position of the Cape of Good Hope and its importance as a stopping point for many of the early voyages of discovery." See Cooper & Headland op cit note 350 pg. 77.

[355] Under Marion du Fresne's second in command Julien Crozet, after whom Crozet Island is named.

Prince Edward Islands)[356] while James Cook, for example, in 1772 aboard HMS Resolution,[357] on his second and, from an Antarctic perspective, most significant voyage called at Cape Town *en route* to the high southern latitudes in search of the Great Southern Continent and/or the South Pole.[358] Cook crossed the Antarctic Circle, penetrating further south than anyone had done previously, reaching 71°10'S, circumnavigated the continent without finding it, and then, on his outward voyage, in 1775, called again at Cape Town.[359] He was followed in 1839[360] by one of Antarctica's most renowned explorers, James Clark Ross on HMS Erebus and HMS Terror.[361] While in Cape Town, *en route* to the Antarctic, Ross established a magnetic observatory.[362]

3.3 Early commercial exploitation

Apart from the convenience and usefulness of Cape Town as a gateway to Antarctic and Southern Ocean exploration, South Africa also became commercially involved in the Antarctic through the rapidly growing sealing industry. As early as 1869 to 1891 several sealing expeditions left from Cape Town,[363] which became an integral part of the sub-Antarctic seal trade, (which included, inter alia, Gough Island, Tristan da Cunha and the Prince Edwards Islands[364]). Sealing (and later whaling) was not limited to this period and, as Glazewski notes: "Later, South Africa became more intensively involved in sealing in the Southern Ocean generally".[365] Indeed, South African involvement was not limited to Cape Town alone, as Van der Watt and Swart note,

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[356] Originally discovered by a Dutchman, Ham on the Masvereen. Marion Island is named after Marion du Fresne, though only in a convoluted manner and some considerable time later. See Cooper & Headland op cit note 350 pg. 78.
[357] Together with HMS Adventure, commanded by Furneaux. For more on Cook generally see Beaglehole JC, (ed.) The Journals of Captain James Cook on his Voyages of Discovery, Cambridge University Press, 1955-1967.
[358] Cook had called at Cape Town, *en route* home on his first (1768) voyage of discovery on the 14th March 1771 on HMS Endeavour and remained there for a month. Biography of Sir Joseph Banks, S2A3 Biographical Database of Southern African Science, http://www.s2a3.org.za/bio/Biograph_final.php?serial=143. July 2020. He also visited Cape Town on his third voyage with HMS Resolution and HMS Discovery, leaving in November 1776. See Cooper & Headland op cit note 350 pg. 77.
[359] After calling at, inter alia, after Easter Island, Tahiti, the Friendly Islands, New Hebrides, New Caledonia, Norfolk Island and New Zealand, Chile, Patagonia, Terra del Fuego and South Georgia. This time unaccompanied by the HMS Adventure which had returned to England a year earlier. https://www.nla.gov.au/selected-library-collections/james-cook-and-his-voyages. July 2020.
[360] There were, of course, other, significant visitors using Cape Town on voyages of exploration and discovery, but not specifically with regard to Antarctica, for example Charles Darwin on HMS Beagle in 1836. Dubow S, "200 Years of Astronomy in South Africa: From the Royal Observatory to the 'Big Bang' of the Square Kilometre Array" *Journal of Southern African Studies* 2019 45 (4) pg. 667, and Warner B, "Charles Darwin and John Herschel" *South African Journal of Science* 2009 105 (11-12). See, generally, on Darwin in Cape Town, Barnard WS, "Darwin at the Cape: history of science" *South African Journal of Science* 2004 100 (5-6) 243-248.
[361] Ross was in command of HMS Erebus and Crozier, his second in command, was aboard HMS Terror, which ships subsequently lent their names to Antarctica's two most famous active volcanoes.
[362] Savours A, "Sir James Clark Ross, 1800-1862" *The Geographical Journal* 1962 128 (3) pg. 326.
[363] Headland RK, Chronological List of Antarctic Expeditions and Related Historical Events, Studies in Polar Research, (1989) at 26 – 30.
[364] For a detailed account of sealing on the Prince Edwards Islands, see Cooper & Headland op cit note 350 pg. 78.
[365] Glazewski op cit note 350 pg. 97.

> "From the seventeenth to the early twentieth century, sealing was the main activity run by companies based in the areas that came to be British colonies, the Cape of Good Hope and Natal, or using labour based in these colonies."[366]

thus bringing the nascent South Africa firmly within the fold of Antarctic, sub-Antarctic island and Southern Ocean resource exploitation.[367]

3.4 Heroic age of Antarctic exploration

Although never directly involved in an expedition, South Africa, specifically Cape Town,[368] featured prominently in many of the most famous expeditions of the 'heroic age' of Antarctic exploration. Scott was a frequent visitor,[369] leaving from Cape Town on both the Discovery expedition and later the ill-fated Terra Nova expedition. However, Scott was not the only famous Antarctic personality to have done so. The German explorer von Drygalski with the German Antarctic expedition aboard the Gauss also departed from Cape Town. In fact, he spent a considerable time there while the Gauss underwent repairs, even taking new crew on board, as this extract from *Nature* shows:

> "The stay in Cape Town was prolonged in order to caulk the ship, which was leaking considerably though not to a dangerous degree, and to make certain changes in the gear and fittings which experience showed to be desirable. Six members of the crew were landed at their own request or as undesirables, and substitutes for them had to be found, and at the last moment two Norwegian volunteers were also taken on board. Prof. Drygalski acknowledges very warmly the hearty reception given him by the authorities at the Cape, which culminated in a military band playing German airs at the pierhead as the *Gauss* took her departure on November 27, 1901."[370]

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[366] Van der Watt & Swart op cit note 350 pg. 270.
Of course, the southern African sealing industry was not limited to Antarctica and the sub-Antarctic, but was also prevalent along the entire Southern African coast wherever there were seals to be hunted and harvested. For an insight into the scope of the Southern African sealing industry see David J, & van Sittert L, "A reconstruction of the Cape (South African) fur seal harvest 1653–1899 and a comparison with the 20th-century harvest" *South African Journal of Science* 2008 104 107–110.

[367] For more, generally on the Antarctic and Southern Ocean sealing industry see Rack U, "Historical Antarctic sealing industry conference" *The Polar Journal* 2017 (7) 1, 253-255, and the proceedings of the same conference, Headland, RK (ed.) Historical Antarctic Sealing Industry: Proceedings of an International Conference in Cambridge 16-21 September 2016, Scott Polar Research Institute, University of Cambridge, 2018. As noted in previous chapters sealers played an important, though often confusing (due to the secrecy with which they protected their "discoveries") role in Antarctic and sub-Antarctic island exploration.

[368] Cape Town is used in the modern sense, describing the greater Cape Town metropole. In fact many of the vessels mentioned in the various expeditions actually called at the port of Simon's Town. See, for example, the Terra Nova which berthed in Simon's Town on her voyage south. Evans ERGR, South with Scott. Collins Glasgow 1921, pg. 22. See also the HMS Challenger expedition lead by George Nares. In 1874 HMS Challenger became the first steamship to cross the Antarctic Circle. Vice-Admiral Sir George Nares, K.C.B., F.R.S. *Nature* (1915) 94 565–567 https://doi.org/10.1038/094565b0. March 2025.

[369] Scott had in fact spent some time at the Cape previously, "Scott had been stationed in the Cape from 1883 to 1885 and visited in 1900." https://www.geocaching.com/geocache/GC7B91V_south-with-scott?guid=d9a8b8d9-72f1-47d4-93cf-21773cf4ab4a. May 2021.

[370] "The Cruise of the 'Gauss' from Cape Town to Kerguelen" *Nature* 1902 67 33–34.

Other explorers and expeditions included Bruce on board the Scotia with the Scottish National Antarctic expedition in 1902, Mawson, later famous for the Australasian Antarctic Expedition on board the Aurora, on board Shackleton's Nimrod, and of course Shackleton himself, both aboard the Discovery under Scott and later on the Nimrod, as leader of the Nimrod British Antarctic Expedition in 1907.[371] Shackleton had also planned to depart from Cape Town on his Quest expedition, but circumstance prevented this. However, the Quest under the command of Wild after Shackleton's death did call at Cape Town on her return voyage, arriving in June 1922 and remaining there for a month before leaving for the United Kingdom,[372] bringing down the curtain on the "heroic age" of exploration. South Africa never did conduct an expedition of its own during this period although plans, commenced in 1919, to conduct a South African National Antarctic Expedition "were called off with the onset of the depression" in 1921, having reached a "considerably advanced" stage.[373]

3.5 SA involvement up to the AT: Exploration, exploitation, a scientific foothold and politics

In 1910 the Union of South Africa was formed, bringing together four of Britain's southern African colonies - the long-held Cape Colony, Natal and the more recently acquired Orange Free State and Transvaal Boer republics. Significantly, the latter two were acquired only after an exceedingly bitter and vicious war[374] that captured the British imagination like no previous war and which, due to the attitude and conduct of the British (which included, inter alia, a scorched earth policy which saw the deliberate burning of all arable farmland possible,[375] the use of concentration camps - in which thousands of women and children

[371] See generally Van der Watt & Swart op cit note 350, and see Cooper & Headland op cit note 350 pg. 81, referring to Scott RF, The voyage of the 'Discovery'. Smith, Elder & Co., London, 1905; Scott RF, Scott's last expedition. Volume 1. Smith, Elder & Co., London 1913; Shackleton E, The heart of the Antarctic. William Heinemann, London, 1909, and Headland RK, "Chronological list of Antarctic expeditions and related historical events" Cambridge University Press, Cambridge 1989. Cooper & Headland provide some interesting detail about the activities of these famous explorers in the Cape. See Cooper & Headland op cit note 350 pg. 81. Van der Watt & Swart, somewhat poetically, state that "Some of the British Empire's most famous sons watched Table Mountain recede on the horizon as they sailed south to Antarctica in the first decades of the twentieth century: Captain Robert Falcon Scott, Sir Ernest Shackleton and Sir Douglas Mawson." Van der Watt & Swart op cit note 350 pg. 267. Of course, leaving from Simon's Town, as most of them did, no view of Table Mountain was or is possible. Sydney Cullis provides a short interesting synopsis of several other Antarctic expeditions. SANAP Sydney Cullis https://www.sanap.ac.za/friday-freelancer-sydney-cullis#:~:text=Initially%20my%20interest%20was%20in,Endurance)%20are%20some%20of%20them. March 2025.

[372] See, generally, Mills L, Frank Wild. Whitby: Caedmon of Whitby 1999. For Wild's first-hand account of the reception the crew received in Cape Town see Wild F, Shackleton's last voyage: The Story of the Quest Cassell & Co, Ltd, London, 1923 pgs. 290-293.

[373] Cooper & Headland op cit note 350 pg. 81 referring to Rosenthal E, & Blum E, Runner and Mailcoach Postal History and Stamps of Southern Africa. Purnell, Cape Town, 1969. It was Professor Goddard of the Department of Geology, University of Stellenbosch who commenced the planning of this expedition. Cooper & Headland op cit note 350 pg. 81.

[374] The Second Anglo Boer War of 1899 – 1992, known to the Afrikaners as the Second War of Independence.

[375] "The British scorched-earth policy during the latter part of the conflict reduced the country almost to a wasteland." Grundlingh A, "The Bitter Legacy of the Boer War" *History Today* 1999 49 (11). https://www.questia.com/magazine/1G1-57748065/the-bitter-legacy-of-the-boer-war. August 2020.

died – as a deliberate tool of war,[376] mass deportations and exile, extra-judicial and summary executions, and the deployment of approximately 400 000 troops[377]), became imprinted and still remains bitterly etched in Afrikaner memory. The impact of this on the Afrikaner psyche is not to be underestimated and indirectly, or perhaps directly, played an important role in the development of Afrikaner nationalism[378] which, once Afrikaner governments, or Afrikaner sympathetic governments, were installed in South Africa, had an impact on South Africa's attitude to Antarctica,[379] which is aptly described by Van der Watt and Swart as indifferent.[380] As Dodds notes, "…although Britain remained the dominant party in shaping South African foreign affairs, the memories of defeat in the Boer War remained important in the minds of many officials and governments."[381]

The "heroic age" of exploration is considered to have ended with the death of Shackleton in South Georgia in 1922. However, this stopped neither exploration, scientific discovery nor commercial exploitation of the Antarctic, and South Africa was again involved in all spheres, both directly and indirectly. However, in addition to the aforementioned, another area of Antarctic involvement already present but overshadowed in large part although inextricably linked with science, exploration and exploitation, came to the fore, namely the emergence of geopolitical concerns and interests as the main motivating factor behind state and institutional Antarctic involvement. While, undeniably, many of the heroic expeditions and even the ones preceding this age were overtly nationalistic in nature and made "claims" to sovereignty over huge parts of the continent, surrounding islands and sub-Antarctic islands, it was during this period that political interests escalated and many claims were formalised.

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[376] "…the British incarceration of Boer women and children in concentration camps … was a strategy employed by the British high command in an effort to curtail the activities of Boer guerrilla fighters who lived off the land and used their farmsteads as bases. The administration of the concentration camps left much to be desired, and through neglect and incompetence 27,927 Boers died from disease." Grundlingh op cit note 374.

[377] National Army Museum, https://www.nam.ac.uk/explore/boer-war. May 2021. There are estimates that the figure was closer to 500 000 men. "Although it was the largest and most costly war in which the British engaged between the Napoleonic Wars and World War I (spending more than £200 million), it was fought between wholly unequal protagonists. The total British military strength in Southern Africa reached nearly 500,000 men." https://www.britannica.com/event/South-African-War. May 2021.

[378] "…the camps constituted a shared national tragedy, destined to have an enduring effect well beyond the war itself." Grundlingh op cit note 374. What is overlooked, but should not be, was the fact that Britain's actions actually had a far wider impact. "[British] scorched-earth tactics led to the uprooting of black as well as white families. By the end of the war 115,700 black refugees had been settled in 66 concentration camps. The black camps were used as a source of cheap labour for the British army and prevailing conditions were worse even than in the camps of white refugees." Warwick P, Black People in the South African War 1899-1902 Cambridge University Press, Cambridge, 1983. Approximately 14 000 died in these concentration camps. Spies SB, Methods of Barbarism?: Roberts and Kitchener and Civilians in the Boer Republics, January 1900-May 1902, Human & Rousseau, 1977.

[379] Van der Watt & Swart note that some elements attempted to use an increased involvement in Antarctica to help forge a nationalist identity, "Antarctica, to [the minds of a few entrepreneurial men], was one of the noblest places to enact nationalism." (Van der Watt & Swart op cit note 350 pg. 268), while the ambivalence of South African Afrikaner governments to British instruction may have played a small part in South Africa developing a very different attitude to Antarctica to that adopted, at Britain's behest, by, for example, Australia and New Zealand. As Van der Watt & Swart point out "In South Africa, influential politicians and scientists called for more polar activity, often linking it to nationalist goals. The attitude of the government nevertheless remained one of indifference." Van der Watt & Swart op cit note 350 pg. 268.

[380] Van der Watt & Swart op cit note 350 pg. 268.

[381] Dodds op cit note 307 pg. 29 referring to Barber J, & Barratt J, South Africa's foreign policy, Cambridge: Cambridge University Press 1990.

Again, South Africa exhibited its unique attitude to, and relationship with, Antarctica in all these areas. South Africa remained peripherally involved in expeditions to Antarctica, was, as a state, mostly only indirectly involved in conducting science, although many individuals were directly involved, was occasionally directly involved in scientific research, and politically seemed to straddle a sometimes confusing middle path of intermittently establishing a direct interest but without direct physical political involvement.

3.5.1 Exploration

Expeditions and voyages of exploration did not cease with the end of the "heroic" era; they merely adapted and developed with the development of new technology.[382] Expeditions included several by the wide range of countries, including, in addition to Britain, Norway, France, Germany, Russia, Australia, the United States and Sweden. Some, again, used Cape Town as their gateway to Antarctica. As Cooper & Headland note,

> "…the RRS Discovery of the British, Australian, New Zealand Antarctic Research Expedition (BANZARE) of 1929 to 1931 and the Norsel of the Norwegian-British-Swedish Expedition (NBSE) of 1949 to 1952 are two examples".[383]

South Africa, however did not mount any expeditions of its own, as Dodds summaries, "During the years between 1925 and 1935, the role of South Africa in Antarctic affairs was largely reduced to providing facilities for foreign expeditions"[384] although it did contribute financially in this regard. Dodds, with regard to the aforementioned BANZARE expedition, notes that the Finance Secretary directed that "every facility at Cape Town [should be given] and that the cost of the overhauling of the "Discovery" and the coal to be taken in by the vessel should be borne by the Union government."[385]

The tenor of many of these expeditions, however, differed from those of the age preceding them, with the focus increasingly being on scientific research and not on heroic feats battling the elements in order to achieve explorational "firsts".[386] The emphasis thus, in this account, also shifts to the sphere of scientific research and involvement.

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[382] For example, Admiral Byrd, leaving from the Little America camp, made the first flight to the South Pole in November 1929, and Lincoln Ellsworth called at Cape Town in November 1938 en route to flying over Antarctica on one of his many expeditions.
[383] Cooper & Headland op cit note 350 pg. 82, referring to Fletcher H, *Antarctic days with Mawson. A personal account of the British, Australian and New Zealand Antarctic Research Expedition of 1929-31* London, Angus & Robertson 1984 and Giaever J, *The white desert. The official account of the Norwegian-British-Swedish Antarctic expedition* London, Chatto & Windus, 1954.
[384] Dodds op cit note 307 pg. 29.
[385] Ibid.
[386] With the exception, of course, of the various attempts to be the first to fly to the South Pole and to traverse the continent. In addition, particularly during the Second World War, some "expeditions" were military in nature.

3.5.2 Commercial exploitation

Sealing activities continued unabated in the 20th century, limited only by the gradual near extinction of many of the seal species[387] and at the same time whaling, which had always existed, increased substantially.[388] As Dodds points out, "The relative geographical proximity of Cape Town to the Southern Ocean meant that it was an important staging post for the whaling industry."[389] South Africa was also deeply involved in the whaling industry itself, both as a base from which whaling expeditions could operate and with on-shore whaling stations in the Cape and Durban in Natal.[390] The remains of the whaling stations still exist as a testament to this silent slaughter.

3.5.3 Scientific involvement

As mentioned above, scientific research gradually became (and still remains) the single most significant marker of Antarctic involvement. Indeed, since the AT, significant scientific research involvement has become a pre-condition for involvement in Antarctica.[391] Most expeditions to Antarctica thus focused on conducting scientific research. This is not to say that there weren't other significant factors at play – most expeditions, for example, carried either a covert, or even an overt, political motive, and those conducted during the Second World War were exclusively military (and thus political) in nature. Focusing, however, on the scientific aspect of South Africa's involvement over this period, it is clear that there was both an element of direct scientific involvement and a large degree of indirect scientific involvement.

(i) Indirect scientific involvement

South Africa continued to play host to scientific expeditions. As Cooper and Headland note,

> "The RRS Discovery II called many times at Cape Town in the 1930s during investigations of whales and their prey in the Southern Ocean [and] whale biologists

[387] The scale and brutality of the commercial exploitation by the sealing industry, necessitating the later move by the ATCPs to put into place a convention protecting seals has been discussed earlier. In this regard see, generally, Headland RK, (ed.) "Historical Antarctic Sealing Industry: Proceedings of an International Conference" Cambridge 16-21 September 2016, Scott Polar Research Institute, University of Cambridge, 2018.
[388] "The modern whaling industry was established in the early part of the twentieth century and initially operated from various islands including South Georgia, the Falklands, the South Shetlands, Kerguelen, Macquarie, and Campbell islands, as well as from floating factory ships." Glazewski op cit note 350 97.
[389] Dodds op cit note 307 pg. 25.
[390] The South African Whaling Company was formed in Durban in 1908 by the Norwegian Consul in Durban with the establishment of a processing plant and two whaling ships brought from Norway and, notes Jackson, "there were 13 whaling companies registered in Natal by 1912". Jackson A, Whaling in Durban http://www.durban.gov.za/Discover_Durban/History_Communities/Durban_History/Pages/Whaling_in_Durban.aspx. August 2020. For more on the South African whaling industry see Glazewski op cit note 350 pg. 98.
[391] Article IX (2) of the AT.

of the Discovery expeditions worked in the Antarctic 'off-season' at the whaling stations of Saldanha Bay and Durban."[392]

Other expeditions included the 1937 Norwegian Scientific Expedition to Tristan da Cunha which also called at the Cape,[393] setting off a chain of events that ultimately resulted in more direct South African scientific involvement in the sub-Antarctic islands.

(ii) Direct scientific involvement

Although it wasn't until 1960 that South Africa organised a national expedition to the Antarctic continent itself, it did actively participate (equipment, finance and personnel) in scientific research both through the involvement of individuals, participation in the scientific programmes of other countries and through its own national programmes of research in Antarctica. The primary focus areas of scientific research were, in the early stages of South African involvement, geology and meteorology.

(a) Second IPY

The second International Polar Year of 1923/1924 saw South Africa refit the Tafelberg, a whaling factory ship, as an Antarctic research vessel[394] which "worked off the coast of Dronning Maud and Enderby Lands from October 1932 to March 1933."[395] That Antarctic research was a national imperative (albeit a minor one) can be inferred from, inter alia, Jan Smuts'[396] address to the South African Association for the Advancement of Science in 1925 in which he "called for the establishment of a series of meteorological stations in the southern hemisphere, including Antarctica."[397]

(b) Geological research

Du Toit's famous book "Our Wandering Continents: An Hypothesis of Continental Drifting"[398] was published in 1937 and although not well received at the time, placed South African geological science firmly on the map. As Van der Watt remarks, "Antarctica would become a site where southern hemisphere scientists felt they could challenge metropolitan conceits about the geological history of the Earth."[399] South Africa, under the auspices of the Geological Society of South Africa, also established the South African Antarctic Research

[392] Cooper & Headland op cit note 350 pg. 81, referring to Coleman-Cooke J, Discovery ll in the Antarctic, Odhams, London, 1963 and Ommanney FD, South Latitude, Longmans, Green & Co., London, 1938.
[393] Holdgate M, "Obituary Allan Bryant Crawford" *Polar Record* 2007 43 (227) 383–384, pg. 383.
[394] Cooper & Headland op cit note 350 pg. 81.
[395] Ibid, referring to Burdecki F, "The climate of SANAE. Part I: temperature, wind and sea-level pressure" *Notos* 1969 18 3-60.
[396] Prime Minister of South Africa from 1919 to 1923 and 1939 to 1948.
[397] Van der Watt op cit note 244 pg. 75, citing Smuts, "Presidential Address." Report of the Twenty-Third Annual Meeting for the South African Association for the Advancement of Science, Cape Town, 1925.
[398] Du Toit AL, "Our Wandering Continents: an Hypothesis of Continental Drifting" London, Oliver & Boyd 1937.
[399] Van der Watt op cit note 244 pg. 76.

Committee which, while chaired by Professor L C King,[400] contemplated an Antarctic expedition in 1946 to 1948. It had the support of Prime Minister J C Smuts, but without British support, and due to the economic consequences of the recently concluded Second World War, it did not happen.[401] Geological research continued nonetheless, and as was noted in the special exhibition at the Scott Polar Research Institute's Polar Museum, 'The Year That Made Antarctica', with specific reference to the role played by SCAR, "Rocks collected during IGY and sent for analysis to Dr Edna Plumstead in South Africa provided vital evidence in support of the theory of continental drift."[402]

(c) Individual scientists

With regard to individual scientists, the first South African, and probably its most famous Antarctic scientist to spend time in Antarctica, was Raymond Adie, a geologist, who after graduating from the University of Natal in 1946 joined the Falkland Islands Dependencies Survey (FIDS) which became the British Antarctic Survey (BAS) (of which he eventually became deputy director for over a decade) and spent three consecutive winters in Antarctica, initially at Hope Bay in 1947 and then two winters at Stonington Island with Vivian Fuchs.[403] He was a remarkable scientist and was awarded a Polar Medal, (1954) the Bellingshausen Medal of the USSR Academy of Sciences (1970), made an OBE (1970) a Fuchs medal (1986) (Fuchs himself wrote the citation stating, "No one could have done more in the cause of Antarctic science.")[404] and was honoured with a Doctor of Science *honoris causa* from his alma mater, the University of Natal (1987).[405] Adie Inlet on the east coast of the Antarctic Peninsula is named after him. Others also participated, for example, J A King from the SA Weather Bureau joined the *Norsel* and participated in the Norwegian-British-Swedish Expedition of 1949, but only as an observer.[406]

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[400] Of the University of Natal.
[401] Cooper & Headland op cit note 350 pg. 82, referring to Wolmarans LG, & Kent LE, "Geological investigations in western Dronning Maud Land" *South African Journal Antarctic Research* 1982 Suppl. 2 1-93.
[402] https://www.scar.org/general-scar-news/igy-spri/. August 2020.
[403] Adie was a remarkable individual who undertook significant dog sled journeys with Fuchs during this time. They covered approximately 2 400 km and Fuchs described him as the man who "taught me to drive dogs" (Fuchs V, Of Ice and Men: the story of the British Antarctic Survey, 1943-73, England: A. Nelson, 1982.). He was also "the first and only man to sledge with dogs the length of the Antarctic Peninsula." (Swithinbank C, & Clarkson P, "Obituary: Raymond John Adie" *Polar Record* 2006 42 (223) 382–383.) He was also prescient in his geological research, in 1952 publishing a paper that relocated the Falkland Islands in the breakup of Gondwana. As Stone wrote, in one of many obituaries, "It was a brave paper for its time. This was more than a decade before the first ripples of the plate tectonic revolution were felt in the geological mainstream and continental drift was then widely regarded as a barely respectable heresy. Adie's proposals were neglected for more than 30 years, until confirmed during the 1980s by modern methods of palaeomagnetic research." https://www.falklandsbiographies.org/biographies/adie_raymond. August 2020.
[404] Frost J, "Ray Adie Scientist and explorer who dedicated his life to Antarctica" The Guardian Wed 5 Jul 2006 https://www.theguardian.com/science/2006/jul/05/obituaries.guardianobituaries. August 2020.
[405] Cooper & Headland op cit note 350 pg. 81.
[406] Ibid pg. 82 referring to Giaever J, The white desert. The official account of the Norwegian-British-Swedish Antarctic expedition, London, Chatto & Windus, 1954. King's participation did enjoy official South African sanction and support, albeit in a somewhat hurried manner. See Van der Watt SME, "Out in the Cold: Science and the Environment in South Africa's Involvement in the sub-Antarctic and Antarctic in the Twentieth Century" PhD Thesis 2012 University of Stellenbosch pgs. 87-88 where she describes the indecisiveness on the part of SA in supporting King's participation.

(d) The Trans-Antarctic expedition

It was, however, through meteorology that South Africa's next, and probably most politically significant, act of continental Antarctic scientific participation occurred. JJ La Grange joined the Fuchs-lead Commonwealth Trans-Antarctic Expedition of 1955 to 1958 as the meteorologist and ended up spending 3 years in Antarctica. He was involved from the outset in the establishment of the initial bases and traversed the continent with Fuchs, reaching the pole, on the 19th January 1958 en route, the first South African, and together with the Australian and New Zealand members of the expedition, also a representative of only the (joint) third nation to reach the pole overland.[407]

(e) The IGY/IPY 1957-1958

The advent of the IGY/IPY, 1957 – 1958, saw a significant increase in Antarctic scientific activity (as discussed previously) including a significant increase in South African involvement in a range of different spheres, although focusing mainly on meteorology, geology, glaciology and oceanographic research. Meteorologists Artz and Bothma, "spent 1959 with the British FIDS at Halley Bay in Coats Land, Antarctica,"[408] and the South African Weather Bureau was tasked by the IGY/IPY committee with "preparing daily weather charts for the southern hemisphere, south of 20°S,"[409] which brought its weather stations at Gough Island, Tristan da Cunha and Marion Island into the IGY.[410]

(f) The first South African National Antarctic Expedition (SANAE)

The first South African National Antarctic Expedition,[411] a direct result of the IGY/IPY, under the leadership of La Grange, left Cape Town in December 1959 aboard the *Polarbjorn* and arrived in Antarctica in January 1960, to take over Norway Station (the Norwegian base) in Dronning Maud Land and establish a permanent all year round South African station in

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[407] His account of the expedition can be found in La Grange JJ, "The Beginning: 1 Taking part in the Trans-Antarctic Expedition" *South African Journal of Antarctic Research* 1991 21(2) pgs. 91-96 and it is also described in detail in Fuchs V, & Hillary E, The Crossing of Antarctica, London, Cassel, 1958. Although some have downplayed his involvement, describing it as "almost tokenistic" (Roberts P, Dodds KJ, & Van der Watt, L-M, "'But why do you go there?' Norway and South Africa in the Antarctic during the 1950s" in Sörlin S, (ed.) Science, Geopolitics and Culture in the Polar Region Farnham Ashgate, 2013), La Grange's 3 consecutive years in Antarctica, his scientific contribution and the fact that he was deemed a worthy recipient of a Polar Medal, South Africa's second such medal after Raymond Adie in 1954, indicate otherwise. Only Amundsen and Scott had previously reached the pole overland, before the Commonwealth Trans-Antarctic Expedition did so.

[408] Cooper & Headland op cit note 350 pg. 82, referring to Artz G, "News from the south" *News Letter South African Weather Bureau*, 1959 119 5-6 and Bothma J, "A year in the Antarctic" *News Letter South African Weather Bureau* 1962, 153 187-190.

[409] Hänel C, "Gough Island 500 years after its discovery: a bibliography of scientific and popular literature 1505 to 2005, South African Journal of Science 2008 104 (9-10) pg. 330.

[410] Hänel notes that "The individual and collective contributions made to the IGY by the South African scientific programmes received international recognition on a scale beyond the modest expectations of the meteorological sub-committee of the South African National Committee for the IGY." Hänel op cit note 408 pg. 330.

[411] Consisting of ten employees of the South African Weather Bureau. Cooper & Headland op cit note 350 pg. 82.

Antarctica, which it has operated continuously, and which it continues to operate to this day.

(g) Sub-Antarctic meteorological involvement

South African direct involvement wasn't limited only to the above instances and wasn't only conducted as part of the IGY, however, as it had already established a significant scientific presence in the sub-Antarctic, through its meteorological programme. The impetus for this had occurred as early as 1925[412] when Jan Smuts had lent his support to the development of South Africa's nascent Southern Ocean meteorological ambitions with his address to the South African Association for the advancement of science,[413] and showed tremendous prescience about the need to establish an Antarctic station.[414] The recognition that the development of weather patterns in the Southern Ocean (and the Antarctic) had a significant impact on the South African climate, and thus agriculture, and that accurate forecasting was an invaluable asset in managing this resource meant that SA started developing meteorological monitoring and research at an early stage;

> "Meteorological matters were accorded a high priority by South Africa before, and when, it commenced sending scientific expeditions to the sub-Antarctic Prince Edward Islands in 1947. Weather stations were set up on Tristan da Cunha and Gough Islands in 1942 and 1956, respectively."[415]

Gough Island

Hänel describes the establishment, and contribution, of the Gough Island weather station, in particular, in great detail, noting that initial investigations, culminating in a recommendation to establish a station, were conducted in 1947, but were only put into action in 1953 with a trial and then, permanently, in 1955 through a cooperative exercise with the UK based

[412] "In July 1925, still no closer to launching an Antarctic expedition, General Smuts intervened with an appeal for a scientific programme dedicated to Antarctic and South Atlantic meteorological observation." Dodds op cit note 307 pg. 27. Dodds notes, further, that "Interest in joint meteorological research predates Smuts' appeals. For example, R. Mossman submitted a report to the Inter-Department Committee on Research and Development in the Falkland Island Dependencies urging cooperation on this matter in July 1918. He suggested that stations should be built by South Africa, Australia, and New Zealand." Dodds op cit note 307 pg. 40.
[413] Smuts JC, "Presidential Address." Report of the Twenty-Third Annual Meeting for the South African Association for the Advancement of Science, Cape Town, 1925, in Van der Watt op cit note 244 pg. 75.
[414] "If the Union and Australia could agree each to maintain an Antarctic station opposite, or to the Southwest of their respective territories, and the work of all these Antarctic stations could be co-ordinated, the results might be of the utmost value." General Jan Smuts, quoted in Dodds op cit note 307 pgs. 27-28.
[415] Siegfried WR, "Three decades of South African Science in Antarctica" *South African Journal of Antarctic Research*, 1991, 21 (2) 225.

Gough Island Scientific Survey.[416] In 1956 South Africa purchased the Gough Island weather station which it has manned and operated continuously ever since.[417]

Tristan da Cunha

Important though the Gough Island weather station may be, it was preceded by a weather station on Tristan da Cunha, the main and only inhabited island of the group of islands of which Gough Island is a part. The first attempted settlement of the islands, by four people in 1810, was to start a trading station, but by 1813, when a British naval vessel called, only one member, an Italian, still survived. In 1816 the British navy established a base,[418] but abandoned it the following year. However, a small group, led by a Scot and his South African wife, remained to establish the first permanent settlement.[419] The Tristan da Cunha group of islands, which includes Nightingale Island, Inaccessible Island and Gough Island, now forms part of the British Overseas Territory, but South Africa has played a significant part in its history, which has led directly to an important aspect of South Africa's sub-Antarctic scientific activity. Allan Crawford, who first visited Tristan da Cunha as part of the 1937 Norwegian Scientific Expedition, via Cape Town, also visited Gough Island, in 1938. He eventually settled in Cape Town and was co-opted onto a secret British Naval expedition to Tristan in 1942 to establish a radio station and a weather station[420] and was put in charge of the weather station until 1943.[421] He returned to South Africa and was employed by the South African Weather Bureau, during which time he was involved in planning the Gough

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[416] "The prospect of setting up a pilot meteorological station on the island availed itself through the Gough Island Scientific Survey (GISS), a U.K.-organized research expedition that was to be based at Gough between November 1955 and May 1956. Supporting the prospect of manning a permanent weather station, the South African Weather Bureau (SAWB; now the South African Weather Service) supplied all the instruments and an experienced meteorologist, J.J. van der Merwe." Hänel op cit note 408 pg. 329. For a first-hand account see Mullock PJ, "Some Weather Observations on Gough Island" December 1957 https://doi.org/10.1002/j.1477-8696.1957.tb00416.x. August 2020.

[417] "The agency offered to purchase the facilities from [the GISS] and these were officially handed over on 13 May 1956." Hänel op cit note 408 pg. 330. Hänel also notes that "It has collected data continuously for over half a century, making it one of the most important meteorological stations in the world for matters requiring weather-related information, in particular research into global climate change." Hänel op cit note 408 pg. 330. In addition, "South Africa is responsible for providing marine weather-related information and warnings for the world's second largest METAREA (METAREA VII), which extends from 6°S to the Antarctic continent and from 20°W to 80°E." Morris T, & Rautenbach C, "A new era for marine forecasting in South Africa" *South African Journal of Science* 2019 115 (5-6).

[418] Arrived aboard HMS Falmouth August 1816, departed aboard HMS Euridice, November 1817. Ostensibly to ensure that no attempts, using the islands as a base, could be made to free Napoleon, recently incarcerated on nearby St Helena. https://www.tristandc.com/history1506-1817.php. August 2020.

[419] William and Maria Glass with their two children. https://www.tristandc.com/history1817-1853.php. August 2020.

[420] "In 1942 a top secret naval station code-named Job 9 (later HMS Atlantic Isle) was established on Tristan. Its role was to monitor U Boats … and maintain a meteorological station." https://www.tristandc.com/history1942-1961.php. August 2020. The radio station maintained direct "wireless communication with the Cape for the benefit of Allied ships and aircraft. … "The 'Springboks', a detachment of engineers of the South African Defence Force … had constructed the station." Mackay M, Angry Island: The Story of Tristan da Cunha (1506-1963), Chicago, Rand McNally & Co, 1963, pg. 233. Lieutenant-Commander R H T Bellengère, my grandfather, was the naval officer responsible for the establishment and initial command of the Cape Town signal station, to which HMS Atlantic Isle reported, located on Signal Hill.

[421] "Appointed Flight Sergeant and hastily trained in meteorology, Crawford was put in charge of the weather station." Holdgate op cit note 392 pgs. 383–384.

Island weather station. He returned to Tristan in 1946 to manage the weather station again until he left to be part of the South African Expedition to annex the Prince Edward Islands and establish a meteorological station there.[422] Later, in 1955, as the SA liaison officer, he participated in the Gough Island Scientific Survey which eventually resulted in the establishment of South Africa's Gough Island weather station and in 1959 he was part of the South African National Antarctic Expedition which took over Norway Station and established South Africa's first permanent Antarctic station.

Marion Island

The weather station established on Marion Island, in the Prince Edward Islands, in February 1948 was established earlier than South Africa's permanent Gough Island weather station but after South Africa's involvement in the weather station on Tristan da Cunha. South Africa drew on the experience and expertise it had gained in Tristan da Cunha. Of the team of ten men who established the weather station, six were from Tristan da Cunha[423] and it was led by Crawford, who had, from 1946 until his departure for Marion Island, been in charge of the Tristan weather station.[424] Although the political machinations, and implications, of South Africa's annexation of the Prince Edward Islands will be discussed below, suffice it to say that Marion Island represented a significant investment in Southern Ocean and sub-Antarctic scientific research by South Africa.

(h) Biological research

South Africa had at this stage, unlike its meteorological and geological interests, not developed a formal programme of Antarctic or sub-Antarctic biological research. However, sporadic research was conducted. Crawford, among others, published several articles on ornithology on the Prince Edward islands[425] but "terrestrial biological research" on the Prince Edward Islands only formally commenced in 1965.[426]

3.5.4 Political involvement

[422] He was also the first 'postmaster' of Marion Island. Crawford had previously designed a set of postage stamps for Tristan da Cunha, which have become both eminently collectable and famous. Depicting a penguin, the stamps reflect their value in potatoes, the Tristan Islanders having no conventional currency. Crawford M, "'ABC' – Allan Bryant Crawford (1912-2007)" *The SA Philatelist August Cape Town*, 2007, pgs. 324–326.
[423] Holdgate op cit note 392 pg. 383.
[424] "The first meteorological team in February 1948, [was] led by Allan B Crawford, of the South African Division of Meteorology, who had prior experience of operating a weather observatory on Tristan da Cunha, as did two other members of his team Cooper & Headland op cit note 350 pg. 79.
[425] Cooper & Headland op cit note 350 pg. 79. See Crawford AB, "Establishment of the South African meteorological station on Marion Island 1947-48" *Polar Record* 1950 5 576-579; Crawford AB, "The birds of Marion Island, South Indian Ocean" *Emu* 1952 52 73-85; Crawford AB, Tristan da Cunha and the Roaring Forties, Cape Town, David Philip, 1982.
[426] "The First Biological and Geological Expedition, led by Professor Eduard M van Zinderen Bakker Sr." Cooper & Headland op cit note 350 pg. 80.

South Africa's early political ambitions in Antarctica can be described as ambivalent, undecided, contradictory, indifferent, erratic or even confused.[427] Initially drawn in as a potential territorial claimant, SA did not immediately embrace the prospect, then rejected it, reconsidered it, failed to act, subsequently revisited the idea, half-heartedly attempted to pursue a claim, did not, lost the opportunity to do so to a competing nation (Norway) and then, almost at the 11th hour (on a clock at which midnight meant the cut off for serious consideration as a potential founding Antarctic Treaty negotiating consultative party) after the ship had sailed, but not left port, eventually pursued a sub-Antarctic territorial claim which established territorial, scientific and political credibility in the broader Antarctic and Southern Ocean region – the sub-Antarctic.[428]

(i) Early, pre-territorial claimant stage (1910 – 1930)

South Africa did not, initially, harbour any serious Antarctic territorial ambitions. There was certainly a consciousness of the Antarctic in the Cape colony through the role of Cape Town and Simon's Town as gateway ports, and even in Natal, through commercial sealing and whaling involvement in the region. The period around the Union of South Africa in 1910 coincided with some of the most the most dramatic Antarctic events and but did not, at that stage, translate into direct territorial interest. The was early interest, as discussed above,[429] in developing extensive meteorological involvement, in the broader Antarctic/sub-Antarctic region, as well as direct, albeit peripheral involvement in the 2nd IPY of 1923/1924 with refitting of the Tafelberg as a research vessel for use in the region, but, again, the main focus here was the sub-Antarctic, and the Southern Ocean, not the continental mainland. This is understandable as the first two decades of the 20th century were, globally, amongst the most traumatic on record, with the First World War and its aftermath dominating global events and attitudes. In addition, South Africa was a nascent nation with a complex, developing attitude to Britain, then the most significant of the nations interested and involved in the Antarctic, having fought a war against and then alongside Britain in less than a decade and a half.

(ii) South Africa and the scramble for Antarctica[430] (1920 – 1959)

[427] This is not entirely South Africa's fault as Dodds explains that Britain's view of what it wanted South Africa to do was itself "ambivalent" and ambiguous. Dodds op cit note 307 pg. 25.
[428] Without this claim it is unlikely that South Africa would have been able to argue convincingly to be included among the countries invited to negotiate the Antarctic Treaty in 1959. Dodds notes, "It is possible that, had South Africa not taken those islands, the Union would not have participated in the research programmes of the International Geophysical Year (IGY), a decade later." Dodds op cit note 307 pg. 36. Dodds goes on to comprehensively analyse the pathway from annexation of the Prince Edward Islands to the invitation to participate in the negotiation of the AT, from which it is clear that scientific involvement on the Prince Edward Islands was an important factor in South Africa's favour. Dodds op cit note 307 pgs. 36–39.
[429] See the address by Smuts in 1925 to the South African Association of Science.
[430] The term, an echo of the unseemly (and often barbaric) scramble for Africa was used by Sir Robert Lindsey in 1928, "We are embarking on a kind of scramble for territory similar to that which took place in the eighties for Africa." Letter from Sir Robert Lindsey to Lord Cushendun, 21 August 1928. See Dodds op cit note 307 pg. 28. In some respects Antarctica fulfilled a similar role in the British psyche to that played by its notion of empire. Thorleifsson notes that, "For Britain, Antarctic exploration and expansionism 'resonated in a society beset with anxieties about national decline.' To ardent imperialists the prospects of Imperial expansion in

During this period a range of events coalesced and played out in a manner that created the foundations of the present Antarctic regime. Britain developed and formalised an interest in Antarctica with the creation of the Committee for British Policy in the Antarctic in the 1920s.[431] Although Britain had already, in the early part of the century, expressed an interest in controlling parts of the Antarctic,[432] it was in the 1920's that it started actively pursuing such. As Dodds notes,

> "By January 1920 it was agreed that official British policy would focus on gradual annexation of the Antarctic in the hope that international confrontation or counter claims would be avoided."[433]

The significance of this to South Africa was that Britain's strategy was, firstly, the use of its occupation of the Falkland Islands to establish a direct presence in the Antarctic, and secondly, the use of its major Southern Hemisphere colonies, Australia, New Zealand and South Africa, to indirectly establish territorial control over Antarctica.[434] This would and should have resulted in a direct and sustained South African interest in Antarctica as the 1920s and 1930s progressed, precisely as occurred with both New Zealand and Australia.[435] However, a multiplicity of factors meant that this did not occur. Dodds examines some of the factors that contributed to the failure of SA to make a territorial claim, either in the manner of Australia and New Zealand, or in any other manner, and Van der Watt and Swart also provide an excellent and insightful analysis.[436] In summary, Britain had a fundamentally different colonial relationship with South Africa to the one it enjoyed with Australia and New Zealand. It had a schizophrenic history of a bloody war against half of what would become South Africa, supported by, and partially on behalf of the other half of what would

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Antarctica functioned as an outlet to once again demonstrate the strength and virility of the British Empire." Thorleifsson TT, Norway "must really drop their absurd claims such as that to the Otto Sverdrup Islands." Bi-Polar International Diplomacy: The Sverdrup Islands Question, 1902-1930. Master of Arts Thesis Simon Fraser University, 2006, pg. 5, quoting Jones M, The Last Great Conquest: Captain Scott's Antarctic Sacrifice, Oxford: Oxford University Press, 2003, pg. 12.

[431] Dodds op cit note 307 pg. 27. Dodds points out that, "The creation of the Polar Committee in 1926 represented an important moment in British Antarctic policy." Dodds op cit note 307 pg. 27. Indeed, its creation shaped the development of almost all Antarctic policy development, including, South Africa's lack of involvement, Australia and New Zealand's claims, Britain's claims (which all 3 together cover almost 58% of the continent) and in some part, Britain's attitude to recognizing France's claim and allowing, encouraging and recognising Norway's claim.

[432] "Letters Patent in 1908 and 1917 illustrated concerns that this uninhabited and unclaimed territory should be subject to British sovereignty." Dodds op cit note 307 pg. 27.

[433] Ibid.

[434] Ibid. "It was swiftly appreciated that the geographical proximity of Australia, New Zealand, and South Africa could be of considerable importance within a policy of gradual annexation." See also Dudeney JR & Walton DWH "From Scotia to 'Operation Tabarin': developing British policy for Antarctica" *Polar Record* 2012 48 (4) pgs. 342-360.

[435] See previous chapter in which the creation of the Ross Dependency, and its transfer to New Zealand and the creation of the Australian Antarctic Territory and its transfer to Australia, in 1923 and 1933/1936 respectively, are discussed.

[436] As Van der Watt & Swart point out, "Pretoria was merely informed by Whitewall rather than consulted, unlike the two other southern dominions, New Zealand and the Australian Commonwealth who were directly addressed, both before and after they claimed sovereignty to Antarctic territory in the name of his majesty's government." Van der Watt & Swart op cit note 350 pg. 268.

become South Africa. The depth of the division and the effect of the war should not be underestimated. It thus had a less than easy relationship with the Union of South Africa government, which, after union in 1910, controlled the nation it had previously been at war with.[437] The uncertainty was compounded by the considerable contribution South Africa had made to the war effort in the First World War, which improved relations, which were then undermined by a post-WWI nationalist government[438] demanding (and ultimately achieving, with the Statute of Westminster in 1931 and the Status of the Union Act in 1934) greater, and eventually complete independence. Another factor was the lack of direct South African involvement or interest in Antarctica.[439] South Africa, unlike Australia,[440] for example, had not by this stage actively participated in any Antarctic exploration.[441] This, of course, created an additional ambiguity in that Britain's desires to claim Antarctic territory through South Africa were inimical to South Africa's own desires.[442] In addition, as Dodds succinctly summarises, simple geography played a role as well,

> "The so-called South African sector was not considered to be the most important either in strategic or resource terms. It was also considered relatively inaccessible in comparison to territory close to the Antarctic Peninsula."[443]

Perhaps the most overlooked factor, but nonetheless a vital one, however, was the complex political relationship that Britain had with Norway, both in the Antarctic and in the Arctic. Certainly, it is on record that, faced with a lack of enthusiasm by South Africa (not in itself fatal to British interests) and confronted with expanding Norwegian ambitions, Britain deliberately chose to withdraw support for any South African interest in an Antarctic claim. Norway, having only just resolved some minor diplomatic conflict with Britain over its annexation of Bouvet Island in 1927,[444] which Britain was reluctantly forced to concede, undertook not to make any further claims in the Antarctic in areas in which Britain had expressed an interest.[445] Norway, however, persisted in exploring the area that Britain had

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[437] One should not forget, for example, that a young Winston Churchill had been captured by the Boers in the Anglo-Boer War, but had escaped.
[438] The Smuts-lead South African Party was replaced by the Hertzog-lead National Party in 1924, which was much less sympathetic to British interests. It was the National Party government that introduced Afrikaans as an official language, adopted the Statute of Westminster and passed the Status of the Union Act 69 of 1934 entrenching the notion of South Africa as a "sovereign independent state".
[439] "[I]n spite of the efforts of well-connected individuals, and a period of intense nation-building among the (white) populations of South Africa, interest in the icy continent never really took root." Van der Watt & Swart op cit note 350 pg. 268.
[440] Australia's Mawson participated in Shackleton's Nimrod Expedition and lead several Antarctic expeditions of his own, including the 1911/1914 Australasian Antarctic Expedition and the 1929/1931 British, Australian and New Zealand Antarctic Research Expedition (BANZARE).
[441] An attempt by the South African Association for the Advancement of Science in 1921 came to nothing. Dodds op cit note 307 pg. 27.
[442] "One of the ironies of the situation was that South Africa was being used to substantiate British claims in the region, even though it was unable or unwilling to press for a South African claim." Dodds op cit note 307 pg. 28.
[443] Dodds op cit note 307 pg. 27.
[444] For a detailed exposition of this incident, couched in a fine analysis of the intertwined nature of British / Norwegian polar diplomatic machinations see generally Thorleifsson op cit note 429 pgs. 48–54 and also pg. 58.
[445] "The quid pro quo would lie in a British relinquishment of its claim to Bouvet Island and Norway would refrain from making any annexations within the territories outlined in the Imperial Conference proceedings." Thorleifsson op cit note 429 pg. 54.

come to regard as territory earmarked for Australian control which increased the political tension between the two countries.[446] This seems to have played a part in precipitating Britain's dispatch of the 1929 Discovery expedition to the area as part of its plan to formalise a claim to the 'Australian sector'.[447] Norway, however, made a claim to territory within this area,[448] and although it later intimated that it would not pursue this,[449] Britain, in order to secure the proposed Australian sector claim, indicated that it would not oppose Norwegian interest in the adjacent areas – namely the South African sector. As Thorleifsson accurately notes "Britain had effectively invited Norway to annex the sector between Enderby Land and Coats Land due south of South Africa."[450] Simply put, it had become more politically expedient to Britain to support a Norwegian claim to the South African sector than to use South Africa as tool to claim the sector for itself. This is perfectly illustrated by Britain's response when South Africa did finally start to express an interest in an Antarctic claim. Thorleifsson eloquently sums it up as follows,

> "… in November 1930 the Antarctic Committee examined a proposal from South African Captain Mills Joyce who wanted to launch a purely South African expedition between Enderby Land and Coats Land in the hope that "the South African flag one day would be unfurled over those lands lying immediately south of her continent." The Antarctic Committee disapproved of Mills' plans in the view of the correspondence between Wingfield [Britain] and Mowinckel [Norway] in January 1930 and Joyce was consequently ordered to cancel his plans."[451]

Britain subsequently, without any objection by Norway, annexed the 'Australian sector' and when Norway, on the 14th January 1939, annexed the area south of South Africa now named Dronning Maude Land, there was no objection by Britain.

However, until the Norwegian annexation of the South African sector, there had been an element of sporadic South African interest in Antarctica. As mentioned above, the South African Association for the Advancement of Science had attempted, in 1921,[452] to organise an expedition, although this was primarily scientific and with no overt political ambitions.

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[446] "The 1929-30 Norvegia expedition created significant tension in the [British] Foreign Office as the expedition was reported to be operating within the proposed Australian sector." Thorleifsson op cit note 429 pg. 73.
[447] Britain issued a warning memorandum to Norway about the Norvegia's exploration activities in the proposed Australian region. Thorleifsson op cit note 429 pg. 76.
[448] Thorleifsson op cit note 429 pg. 78.
[449] "It became evident that Norway would not proceed to annex any of the newly discovered territories within the British sphere of interest." Thorleifsson op cit note 429 pg. 76.
[450] Ibid pg. 80.
[451] "The Antarctic Committee, Memorandum on Capt. E. E. Mills Joyce's scheme for a South African Expedition, 1930-1932. Enclosure in Secret letter from H. N. Tait to Secretary Office of the High Commissioner for the Union of South Africa, 11 November 1930, NA, FO 337/95", as quoted in Thorleifsson op cit note 429 pg. 81.
[452] "In 1919, a Professor Goddard of the Department of Geology, University of Stellenbosch, commenced planning a South African National Antarctic Expedition. However, by 1921 the considerably advanced plans were called off with the onset of the depression." Cooper & Headland op cit note 350 pg. 81, referring to Rosenthal E, & Blum E, Runner and Mailcoach Postal History and Stamps of Southern Africa, Purnell, Cape Town, 1969.

Business interests also lobbied for a formal South African Antarctic claim.[453] The Mills Joyce proposal of 1929 mentioned above is yet further evidence of a South African interest. Even when the South African government did evidence some, limited, interest, it was usually commercially motivated.[454] The ambivalence of the South African position throughout this crucial period when a territorial claim was possible can best be summarised by the fact that, notwithstanding the application to the Polar Committee to pursue an expedition and a claim, referred to above, when Norway indicated its interest in making a claim to the same area, "the South African government indicated to Norway that it would not object to its claim."[455]

However, in a further display of uncertainty, South Africa revisited the prospect of making a claim in the mid 1930's. Norway had not formalised a claim, but had continued to be active in the South African sector, with Britain's support. South Africa, nevertheless concerned that its previous ambivalence might have, as Dodds says, "'frozen' herself out of active participation in Antarctic affairs,"[456] revisited the prospect of making a claim. The reasons for this are many and varied, but include renewed scientific interest – South Africa had committed the Tafelberg to the 1932/1933 IPY, a changed domestic political landscape – Smuts had been brought back into government in 1935 with the formation of the United Party,[457] international interest in the sector which South Africa felt to be threatening to South African interests – the Japanese had commenced whaling in the South African sector,[458] and, as mentioned, a concern at having missed the Antarctica boat. A great deal of internal government attention was paid to the issue.[459] However, as Dodds summarises, the perennial South African problem beset this renewed interest, "In spite of the extensive departmental interest between January and October 1935, there was little evidence of South African action on the Antarctic question."[460] This was South Africa's last concrete opportunity as Norway's annexation in 1939 of that portion of Antarctica encompassing, entirely, the South African sector, ended any South African aspirations.

Antarctica, however, remained on South Africa's political agenda and it did not completely give up the prospect of making a territorial claim.[461] However, this was pursued with no

[453] "Between 1920 and 1945 … private interests … encouraged the South African government to claim a sector of the Antarctic continent and the sub-Antarctic islands south of Cape Agulhas." Sidiropoulos E, & Wheeler T, To the ends of the earth: Antarctica, the Antarctic Treaty and South Africa, SAIIA Research Report 23, 2016, South African Institute of International Affairs (SAIIA), pg. 28.
[454] "…a [government] memorandum from 1935 advocated that South Africa should lay a territorial claim, given its proximity to the continent. The main driver behind this was to be able to access living and non-living resources." Van der Watt op cit note 244 pgs. 75-76.
[455] Sidiropoulos & Wheeler op cit note 452 pg. 28 referring to Patten J, South Africa South, unpublished manuscript, Cape Town, August 2012, pg. 107.
[456] Dodds op cit note 307 pg. 29.
[457] Ibid.
[458] Ibid pg. 30.
[459] Ibid. Dodds provides an excellent analysis of the various internal memoranda.
[460] Ibid pg. 31.
[461] For example, Dodds refers to a telegram sent by South Africa to Britain in early 1939, shortly after Norway's annexation of the South African sector sounding out Britain's attitude to the prospect of a South African claim in this area. Dodds op cit note 307 pg. 32. "The Union government ... would be grateful to learn whether His Majesty's Government in the United Kingdom would see any advantage in the Union government staking a

more vigour than had been previously employed in this regard. The onset of the Second World War resulted in a range of events that impacted upon the Antarctic political climate, and indeed upon South Africa's attitude to the Antarctic, but South Africa "was unable to support any significant expedition to Antarctic waters [and] ultimately remained a staging post for other national expeditions until the end of the Second World War."[462]

(i) WWII and the immediate effects thereof

Argentinian and Chilean territorial claims[463] precipitated a British reaction, Operation Tabarin, which re-established a physical British presence in Antarctica. This was significant to South Africa in that part of the operation involved establishing radio stations with regard to supplying information in respect of South Atlantic shipping,[464] which was routed via the naval signals command in Cape Town.[465] Operation Tabarin, after the war, evolved into the Falkland Islands Dependencies Survey, which became the primary vehicle for British Antarctic involvement. The creation of this vehicle for the management of British interests, as Dodds points out, "was understood within the South African government as raising possibilities for new claims to the Antarctic or South Atlantic."[466]

While any such claims to the continent itself were neither pursued nor seriously considered by Britain, South Africa had developed a growing interest in sub-Antarctic activity. The war had highlighted the strategic importance of the sub-Antarctic islands, and the advantages of establishing a meteorological presence.[467] South Africa turned its attention to the possibility of acquiring sub-Antarctic territory.[468] In this regard Britain was a lot more supportive and when South Africa expressed an interest in the Prince Edward Islands "In November 1945, therefore, the Polar Committee recommended transfer rather than incorporating them into the administration of the Falkland Islands Dependencies."[469] Dodds

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claim in that portion of Antarctic [sic] lying immediately south of the Cape of Good Hope." Dodds op cit note 307 pg. 32.

[462] Dodds op cit note 307 pg. 32.

[463] In 1943 and 1940 respectively. The USA was also active in Antarctica in the early stages of the war, before suspending operations until the war was over. Dodds op cit note 307 pg. 32.

[464] The *Graf Spee* had been (briefly but effectively) operational in the South Atlantic and there was significant U-boat activity in the region which resulted in large numbers of allied vessels sunk.

[465] The radio station established on Tristan da Cunha, (with South African assistance), which was so significant in the ultimate establishment of South Africa's meteorological station on Gough Island was another piece of the South Atlantic Naval Command's radio intelligence gathering network. The author's grandfather, Lieutenant-Commander RHT Bellengère, was, for portion of this period, the naval officer tasked with establishing and managing the Naval signal station in Cape Town on Signal Hill to which all South Atlantic naval shipping activity was reported.

[466] Dodds op cit note 307 pg. 33.

[467] Dodds op cit note 307 pg. 33, notes that, gleaned from the official exchanges, "the proposed transfer had strategic, legal, meteorological, and resource implications."

[468] "August 1945, 'as the clouds of [the] world war cleared, that the first move was made within the structures of the South African government to establish a presence in the Southern Ocean – on Marion Island in the Prince Edward group almost 1 800km south-east of Port Elizabeth and also on Gough Island 2 000km to the south-west of Cape Town'. This move was driven by the 'desire to improve weather forecasting in South Africa by gaining data from key monitoring points." Sidiropoulos & Wheeler op cit note 452 pgs. 28 – 29, referring to Patten J, South Africa South, unpublished manuscript, pg. 13.

[469] Dodds op cit note 307 pg. 33.

notes that, unlike with South Africa's expressed interest in the mainland, "British officials were, however, sympathetic to the Polar Committee proposal, this time involving the transfer of the Prince Edward Islands in the South Atlantic."[470]

(ii) Prince Edward Islands[471]

(a) Annexation

The details of the discussions leading up to the annexation and the details of the operations effecting the annexation of the PEIs have been well documented.[472] In summary of the salient and relevant aspects, through political negotiation, taking into account a multiplicity of factors,[473] it was agreed by Britain,[474] then the country with the best but certainly not an unimpeachable claim to the islands, that South Africa should annex them and incorporate them into its territory. Towards the end of 1947 South Africa initiated a secret operation named "Operation Snoektown", in terms of which it despatched a naval vessel, the HMSAS Transvaal, to the Islands with a view to claiming them for South Africa. This was duly achieved on the 29th December 1947 for Marion Island, and on the 4th January 1948 for Prince Edward Island. South Africa also then inhabited the Islands,[475] establishing a permanent meteorological station on Marion Island in February 1948,[476] which it has maintained ever since. The importance of the acquisition of the Prince Edward Islands cannot be underestimated. As Dodds succinctly summarises, "The formal involvement of South Africa in the Antarctic and Southern Ocean begins with this episode of acquisition."[477]

(b) Political management

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[470] Ibid.

[471] "The Prince Edward Islands comprise Marion and Prince Edward Islands and are located…approximately 1180 from Cape Town…and some 2 300 km north of Lutzow-Holm Bay, Antarctica…Marion Island…is about 290 km^2 in extent with a relatively unindented coastline of approximately 72 km…Prince Edward Island…is located 19 km to the north-east of Marion and is approximately 45 km^2 in extent…The closest landfall to both Islands is tie aux Cochons of the Crozet Island Group, a French possession, about 950 km to the east." DEAT Directorate Antarctica and Islands, Prince Edward Islands Management Plan Working Group, Prince Edward Islands Management Plan, Pretoria, South Africa, 1996. Pg. 10.

[472] Dodds op cit note 307 pgs. 33-36; Cooper & Headland op cit note 350 pgs. 78 – 80; Marsh JH, *No pathway here* Cape Town, Hodder & Stoughton, 1948.

[473] The Polar Committee had rejected South African interest in the Antarctic continent itself; Smuts was Prime minister and thus Britain was more sympathetic to the South African government than previously (Dodds op cit note 307 pg. 33); South Africa had demonstrated itself a capable and trustworthy ally throughout the immediately preceding war years; South Africa was aligned with Britain in considering Russian interests a threat; the island were significantly closer to South Africa than to the Falkland's (Dodds op cit note 307 pg. 33 "Prince Edward Islands were only 1200 miles away from South Africa but 4000 miles away from the Falkland Islands"); and South Africa had, intermittently, operated commercially around the Islands (Cooper & Headland op cit note 350 pg. 78 "the South African-based Kerguelen Sealing and Whaling Company … sent sealers to the Prince Edward Islands").

[474] "Meetings between the Union government and British officials reached a working understanding on the transfer of sovereignty over the Prince Edward Islands." Dodds op cit note 307 pg. 34.

[475] The base is on Marion Island. Prince Edward Island is completely uninhabited.

[476] Led by Crawford, as discussed earlier in this chapter.

[477] Dodds op cit note 307 pg. 34. Dodds goes on to say that "It is possible that, had South Africa not taken those islands, the Union would not have participated in the research programmes of the International Geophysical Year (IGY), a decade later." Dodds op cit note 307 pg. 36.

South Africa formalised the annexation[478] of the PEIs through an act of parliament, the Prince Edwards Islands Act 43 of 1948. Section 1(1) states that the islands "have been annexed to and form part of the Union of South Africa." Specifically, the islands are deemed to form part of the Cape Town magisterial district for "the purposes of the administration of justice, and in general for the application of the laws of" South Africa.[479]

This Act provides that the South African Roman Dutch common law applies to the islands and that South African statute, but only that listed in the Schedule to the Act also applies.[480] Subsequent legislation only applies, however, if it is expressly stated to do so.[481] Vranken points out that several different methods have, over the years, been used to do this:

> "Parliament uses several techniques for that purpose. For instance, in the case of the Wreck and Salvage Act, 1996 … the term 'Republic' is defined as including the Islands. On the other hand, s. 41(1) of the Environment Conservation Act, 1989 for example, provides that the ECA 'shall also apply in respect of the Prince Edward Islands'. Sometimes the two techniques are combined as in s. 30A of the CCLA which provides that the CCLA 'shall also apply to the Prince Edward Islands … and any reference in th[e] Act to the Republic shall include a reference to those Islands'."[482]

The political management of the PEIs has not, unlike South Africa's presence in Antarctica, been challenged. This has meant that its involvement in the PEIs has, for the most part,[483] been uncontroversial. Certainly, the negotiation and implementation of the Antarctic Treaty itself, which had such a significant impact on South Africa's relationship to Antarctica, had no immediate discernible effect on the PEIs. However, given that the annexation of the PEIs were carried out primarily for geopolitical reasons (as was the negotiation of the AT), the gradual shift towards a greater environmental consideration during the period that followed is noteworthy, and in this the various instruments[484] based upon the Antarctic Treaty certainly did exert significant influence and play an important role, as will be discussed in due course.

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[478] Although there is some debate about whether South Africa annexed the Islands as opposed to taking transfer of sovereignty over them from Britain, the author is of the opinion that the nature of acquisition of sovereignty reflects an annexation and thus the term is preferred in this thesis.
[479] Section 1(2) of the Prince Edward Islands Act.
[480] Vrancken notes that "The MCA is the last of those statutes still in force." Vrancken PHG, South Africa and the Law of the Sea, Martinus Nijhoff Publishers, Leiden, 2011, pg. 68.
[481] "…unless by such Act it is specifically expressed so to apply or unless it is declared to apply by proclamation of the President." Section 4 of the Prince Edward Islands Act.
[482] Vrancken op cit note 479 pg. 68.
[483] South Africa considered building an aircraft landing strip on Marion Island ostensibly for supply, but actually for military purposes without conducting any proper environmental assessments. The plan was jettisoned after significant national and international resistance and condemnation. See, inter alia Dodds KJ, "Antarctica and the 1991 Madrid Protocol: The Political Implications for South Africa" The South African Institute of International Affairs, International Policy Update No.2 1997 pg. 3.
[484] CCAMLR's ecosystemic approach places the Prince Edward Islands on the periphery, and thus within, the Southern Ocean for purposes of protecting and managing marine resources and the Madrid Protocol, some time later, was adopted into South African law and was expressly made applicable to the Prince Edward Islands.

(iii) Political consolidation and consultative party status

If the annexation of the Prince Edward Islands was a *sine qua non* for South Africa's eventual involvement as a founding Antarctic Treaty party member, it was certainly, on its own, not sufficient. Indeed, shortly after South Africa's annexation, the US embarked on its proposal to formulate a regime for the governance of Antarctica, and South Africa was not included in these initial and early stages.[485] However, South Africa actively worked to ensure that it would become a part of the Antarctic political landscape. It pointed out, significantly (and this point still resonates today), that "South Africa would be the only major southern hemispheric country with strategic, resource, and meteorological interests not to be included in Antarctic discussions."[486] Given that part of the reason for including South Africa was a desire to avoid the inclusion of Russia, and given South Africa's anti-Russian stance,[487] it is understandable that the US was sympathetic to South Africa's desire to be included.[488] This, however, was not enough, and South Africa embarked on an active campaign to enhance its interests and reputation in Antarctica. Dodds identifies four tactics by which this aim was, ultimately, successfully achieved:

> "• first, the development and maintenance of a weather programme on Marion Island in the South Indian Ocean;
> • second, through participation in British and Commonwealth expeditions. The most notable of these was the financial commitment of £18,000 and the involvement of the meteorologist Hannes la Grange in the 1955-1957 Trans-Antarctic Expedition;
> • third, South Africa participated in the Antarctic research programmes of the International Geo-physical Year, which was to be crucial to participation in the Antarctic Treaty talks;
> • and fourth, and most significantly, South Africa negotiated the take-over of the Norwegian Antarctic base in Dronning Maud Land in 1958 and joined the Scientific Committee on Antarctic Research."[489]

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[485] Thus demonstrating that sovereignty over sub-Antarctic islands was not enough to warrant an invitation. There were other factors at play too, of course. The US was anxious to exclude the USSR from such negotiations and thus it is possible that including a non-claimant state such as South Africa would have opened the door for the USSR to also demand to be included. Dodds op cit note 307 pg. 36. See, "'The United Kingdom would however find it difficult at this stage to support a South African claim to participate ... association of the Union with the special regime would lead to claims from Russia to be associated with the International Antarctic Commission.'" Dodds op cit note 307 pgs. 36-37, quoting a 1948 internal memorandum of the South African Department of External Affairs.

[486] Dodds op cit note 307 pg. 37.

[487] Dodds notes that "The possible involvement of the Soviet Union in the international politics of the Antarctic was an issue that gave [South Africa] cause for concern," and goes on to state that the South African External Affairs Minister "In a meeting with the Commonwealth Relations Office in August 1957 … reiterated his belief that the Union was 'reluctant to accept a situation which might open the way for the Soviet Union to establish bases in the Antarctic.'" Dodds op cit note 307 pg. 37.

[488] Dodds quotes from an internal memorandum in which it was reported from the South African legation in Washington that "South African interest … was viewed with a great deal of sympathy". Dodds op cit note 307 pg. 37.

[489] Dodds op cit note 307 pgs. 25-42.

There were additional factors that played into this campaign. As noted earlier, South Africa had already been peripherally involved in establishing a meteorological station on Tristan da Cunha[490] which would later be moved to Gough Island,[491] JA King of the SA Weather Bureau had joined the 1949-1952 Norwegian British Swedish Expedition on board the Norsel[492] which resulted in him working in Antarctica in 1949 (ironically in the same region in which South Africa was, a decade later, to later establish a permanent Antarctic station), and Raymond Adie joined the Falkland Island Dependencies Survey and spent several years in Antarctica where he became a close colleague of, and friend to, Vivian Fuchs.[493] This was not unnoticed and Britain, already in 1957, noted that,

> "'If excluded, South Africa would be the only country bordering on the Antarctic which would have no part in future arrangements for the area. The disadvantages of excluding South Africa with her legitimate interests in the area should therefore be kept in mind.'"[494]

South African involvement in the IGY/IPY was, however, the crucial factor, and it had made a concerted effort in this regard. La Grange's participation in the Trans-Antarctic Expedition was perhaps the most publicised, but South Africa was involved in other spheres as well. As mentioned earlier, the SA Weather Bureau was in charge of supplying the regular IGY/IPY weather report throughout the course of the IGY/IPY,[495] which brought the meteorological stations on Gough and Marion Island well into the IGY/IPY programme.[496] In addition, South African meteorologists were seconded to British bases during the IPY/IGY.[497] However, the most important factor, specifically with regard to a demonstration of South Africa's future scientific conduct, was the negotiation for South Africa to take over the Norwegian IGY/IPY base in Dronning Maud Land. Although South Africa actually took occupation after the signature of the Antarctic Treaty (albeit by only a few weeks), the negotiations and agreement to do so were under way prior to Eisenhower's invitation,[498] issued in late 1959 to those countries with a substantial interest in Antarctica, to meet to discuss the creation of an Antarctic governance regime.[499] The invitation was extended only to those countries who were claimants, and the "four non-claimant countries with a substantial interest (as demonstrated in the IGY) in Antarctic affairs: the Soviet Union, Japan, Belgium, and South

[490] In 1942.
[491] 1956.
[492] Cooper & Headland op cit note 350 pg. 82.
[493] Cooper & Headland op cit note 350 pg. 82.
[494] Dodds op cit note 307 pg. 37 quoting a British working paper dated 1937.
[495] "The SAWB was honoured by the IGY committee with the task of preparing daily weather charts for the southern hemisphere, south of 20°S." Hänel op cit note 408 pgs. 329-332.
[496] "The SAWB included Gough as well as Tristan da Cunha and its already established weather station on Marion Island in its IGY programme." Hänel op cit note 408 pgs. 329-332.
[497] Artz and Bothma who spent 1959 with the Falkland Islands Dependencies Survey at Halley Bay in Coats Land, Antarctica. Cooper & Headland op cit note 350 pg. 80.
[498] Glazewski op cit note 350 pgs. 109-110.
[499] South Africa's cause was no doubt helped by the fact that Russia had by this stage made it clear that it could not be excluded from any negotiations over the future of Antarctica, thus rendering redundant the worry that including South Africa would open the door to Russian participation. In addition, South Africa was now also perceived to be an anti-Russia ally in the South Ocean.

Africa."[500] Notwithstanding its initial uncertainty, vacillation, lack of early commitment and the failure to make and establish a territorial claim, South Africa's strategy had ultimately succeeded in securing for itself a place amongst the Antarctic "elite" at the crucial moment when it mattered most.[501] Furthermore, an oft unremarked upon consequence was that South Africa was now locked into a firm Antarctic commitment. Although the days of inter-departmental uncertainly about responsibilities with regard to the South African National Antarctic Programme, SANAP as it became known, were not over, externally South Africa no longer presented an image of disinterest vacillating with bursts of unsubstantiated focus.

3.6 Antarctic Treaty negotiations

South Africa took its place at the table together with the seven claimant states, the USA and Russia (who both reserved the right to claim) and the other two nations which had participated in Antarctica during the IGY/IPY, namely Belgium and Japan. By all accounts South Africa played a rational and thus valuable role.[502] Dodds describes them as being "moderate in their demands" but "insistent … that territorial claims to the Antarctic were not recognised by other nations within the Antarctic Treaty."[503] He also notes that they were "eager supporters of the Argentine proposal for a nuclear test ban in the Antarctic region."[504] Indeed, and by way of example, with some clairvoyance South Africa proposed the establishment of an Antarctic Treaty Secretariat,[505] something that has come to pass, but only after more than three decades. South Africa was then the second nation (after the UK on the 31st May 1960) to ratify the AT, which it did on the 21st June 1960.[506]

3.7 South African involvement subsequent to the AT

South Africa's scientific and political involvement in Antarctica, once cemented by its participation in the negotiation of the AT, its signature thereof and its status as a Consultative Party, has continued without interruption ever since.[507] In this regard South Africa has played an important part in the development of the ATS, environmentally, and has contributed scientifically. Politically, however, South Africa's position was less

[500] Dodds op cit note 307 pg. 38.
[501] "There is no doubt that South Africa's scientific research activities in the preceding decades and J.J. La Grange's 1959 expedition were key determining factors in securing South Africa's membership as one of the twelve founding members of the Antarctic Treaty." Glazewski op cit note 350 pg. 110.
[502] An interesting and insightful account of the negotiations can be found in Van der Essen op cit note 139. Van der Essen was Belgium's representative and was present throughout the several month-long process of negotiation the led up to the signing of the AT. Van der Essen and Roberts of the UK delegation were sometimes, according to van Autenboer, (Abbink op cit note 70 pg. 65) described as the 'founding fathers' of the AT' – a term Van der Essen modestly denied. Nevertheless, his account provides a fascinating insight into the negotiation process.
[503] Dodds op cit note 307 pg. 39.
[504] Ibid.
[505] Which it volunteered to host.
[506] Glazewski op cit note 350 pg. 110.
[507] "As an original signatory to the 1959 Antarctic Treaty, South Africa played a role in shaping the environmental, political and scientific dimension of the ATS." Dodds op cit note 305 pg. 401.

comfortable. While it was positively politically involved within the ATS, externally it suffered a great deal of external political pressure as a result of its hideous apartheid policy and its consequent ostracism by the international community. The advent of a non-racial democracy in 1994, however, redefined South Africa's political connection with Antarctica and, arguably, increased its importance in the region. Of course, the impact of democracy did not have an immediate and discernible effect on South Africa's scientific programmes (although the political impact was more starkly marked), but as South Africa underwent profound political change, it gradually developed its scientific involvement in Antarctica, deepening its commitment, and not, as some feared, drawing back from the continent.

3.7.1 Scientific and environmental involvement

Since establishing its first Antarctic station,[508] South Africa has maintained a permanent presence on the continent and "has sent a research team with support staff to Antarctica every year since the summer of 1959/60."[509] South Africa already had a permanent presence in the sub-Antarctic with a permanently manned weather station on Gough Island since 1956[510] in the South Atlantic Ocean region of the Southern Ocean and a permanent weather station on Marion Island in the South Indian Ocean region of the Southern Ocean since 1948.[511] In addition, both due to its unique location at the confluence of the Indian and Atlantic Oceans and the confluence of both of these with the Southern Ocean, and due to its commercial interests in these waters, South Africa has been active in the Southern Ocean. As far back as 1965 Nel suggested regarding the Sub-Antarctic islands, the Southern Ocean and the Antarctic continent and pack ice as "logical" zones for the "delimitation of research projects"[512] and this simple, useful, guide will be used here.

3.7.1.1 The Sub-Antarctic islands (Gough & Marion)

The meteorological work and research connected with the South African manned weather stations during the IGY/IPY was extremely well received and has continued since the advent

[508] "South Africa agreed to take over the existing Norwegian base and formally renamed it SANAE (South African National Antarctic Expedition) on 8 January 1960." Sidiropoulos & Wheeler op cit note 452 pg. 23.
[509] Ibid pg. 31.
[510] "The first weather station in the southern oceans specifically supplying data to South Africa was eventually established in 1942, on Tristan da Cunha." Van der Watt & Swart op cit note 350 pg. 272. However, after WWII this was transferred to Gough Island where it has remained to the present day. The meteorological team (the only human inhabitants of Gough Island) consists of 6 people: one senior and two junior meteorologists, a radio technician, a medic and a diesel mechanic. The team is replaced each year, by ship, by a new overwintering team. They may also be accompanied by scientists, (usually biologists) conducting scientific research. Each team is referred to by the Island's name and the expedition number. The first team was 'Gough 01,' for example. The teams embark, disembark and are supplied by helicopter or by a fixed cliff-top crane.
[511] For a detailed description of the South African meteorological presence in the sub-Antarctic region, as well as some insight into the reasons therefore and the importance thereof, Van der Watt & Swart op cit note 350 pgs. 267-291.
[512] Nel actually suggested four zones, separating the pack ice and the Antarctic continent. While of some scientific merit, for the purposes of a brief indication of the areas of scientific research in which South Africa has been engaged, the Antarctic continent and the pack ice have been grouped together. Nel JAJ, "South Africa and Biological Research in the Antarctic" *Antarktiese Bulletin*, March 1965, pg. 2.

of the Antarctic Treaty era.[513] Research beyond meteorological research has, however, slowly increased and both sites have become important sites for biological research in the sub-Antarctic region, in addition to their primary function in meteorological research. As Hänel points out, the establishment of the weather station and the regular voyages to Gough Island to service it have opened up the island to significantly increased scientific research.[514] Gough Island was declared a World Heritage site in 1995 and is one of the most significant world seabird breeding grounds.[515] The increased recognition of the importance of Gough Island environmentally has seen an increase in environmental research. In addition, there has been a significant increase in scientific research conducted on Gough Island generally. As Hänel notes, published research in the "50 years since 1955 accounts for 80% of the 739 numbered items listed"[516] in the extremely thorough bibliography she compiled on Gough Island. A recurring theme on several sub-Antarctic islands[517] is the threat posed by invasive alien species, which on Gough takes the form of mice which are responsible for killing extremely large numbers of sea bird chicks.[518] Significant biological research is presently being undertaken in this regard, in particular in the eradication of these mice.[519]

On Marion Island the situation developed in a similar manner. Initially established as a weather station in 1948[520] and, like Gough Island, vital to the IGY/IYP, the Prince Edward Islands, Marion Island in particular, have become the site of significant increased biological research. Although some biological research had been conducted on Marion Island prior to the advent of the AT,[521] it was not part of a formal programme.[522] As Cooper & Headland note: "Terrestrial biological research commenced in a formal way at the Prince Edward

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[513] "The individual and collective contributions made to the IGY by the South African scientific programmes received international recognition on a scale beyond the modest expectations of the meteorological sub-committee of the South African National Committee for the IGY. Since then, valuable scientific work has continued, made possible by South Africa's continuing commitment to servicing the weather station on Gough." Hänel op cit note 408 pgs. 329-332.

[514] Ibid.

[515] For general information see Hänel C, Chown SL, & Gaston KJ, Gough Island: a natural history, Stellenbosch: SUN Press, 2005.

[516] For specific scientific research see Hänel op cit note 408 pgs. 329-332. This is an incredible resource compiled by Christine Hänel and, while it covers all references to Gough Island over the last 500 years, the figure quoted by Hänel excludes "information in the miscellaneous, maps, visual, and news categories."

[517] Besides Gough and Marion Island, mentioned here, Heard and McQuarrie Islands have experienced similar problems.

[518] "It has been projected that 19 of the 28 seabird species that breed on Marion Island will become locally extinct if the mice are not eradicated." Mouse-Free Marion NPC. https://mousefreemarion.org/. July 2024.

[519] See generally with regard to alien invasive species on fragile island ecosystems, as well as specifically with regard to Gough Island, featured in the study: Holmes ND, Spatz DR, Oppel S, Tershy B, Croll DA, Keitt B, *et al.* "Globally important islands where eradicating invasive mammals will benefit highly threatened vertebrates" *PloS ONE* 2019 14 (3): e0212128.

[520] And post office!

[521] "…Rand on the Marion Island Fur seal, La Grange on the Elephant seal on Marion Island, Rand on some of the birds of the Southern Ocean and La Grange on the breeding cycles of some of the birds of Marion, as well as their behaviour." Nel op cit note 511 pg. 2.

[522] Nel noted in 1965 in the Antarctic Bulletin, that "South Africa's interest in the Antarctic region used to be (and I suspect still is) mainly in the field of meteorological observations." Going on to note that "At no time, however, was any sustained biological research programme initiated." Nel op cit note 511 pg. 2.

Islands in 1965 with the First Biological and Geological Expedition."[523] Since this time there has been a significant amount of scientific research conducted, and by 1991 Cooper & Headland were able to note that; "[a] very large body of publications and a number of postgraduate degrees have now emerged from studies of the natural (and introduced) biota of the islands."[524] The PEI Management Plan 1996, provides a comprehensive synopsis of research conducted, and research ongoing, on and around the Prince Edward Islands up to 1994, covering, inter alia, seal populations, bird ecology, oceanographic research, flora, climate, invertebrate and vertebrate terrestrial fauna, marine fauna and many other areas, including the physical sciences "predominantly focused on geology" and, of course meteorological research. Scientific research on the Prince Edward Islands in general and on Marion Island in particular[525] is ongoing and the South African National Committee for Antarctic Research Annual Reports to SCAR provide a great deal of useful information in this regard. Noteworthy, is the attention paid to the eradication of invasive alien species, first feral cats and, subsequently, mice.[526]

The environmental management of the PEIs has been the subject of much carefully considered scientific concern and input. Up to 1989, scientific research on the islands was managed or conducted under the auspices of the SA Council for Industrial Research (CSIR). However, this was moved to the Department of Environmental Affairs and Tourism (DEAT) and the South African Committee for Antarctic Research (SACAR).[527] The approach to environmental management and scientific research on PEI has been subsequently developed significantly and has been almost exemplary, barring an infamous incident involving the proposed construction of a potentially extremely environmentally-damaging airfield on Marion Island.[528] Even so, the resultant backlash and governmental climb-down[529] provided further impetus in the escalation of environmental protection of the

[523] Cooper & Headland op cit note 350 pg. 80. Dodds, relying on Cooper & Headland notes that "scientific research in the Prince Edward Islands began to change in the 1970s from an 'intermittent, opportunistic and informal activity to a properly organised and full time activity'" Dodds op cit note 305 pg. 411.
[524] Cooper & Headland op cit note 350 pg. 80.
[525] Due to a concerted effort to maintain the almost pristine environment of Prince Edward Island, human activity is extremely limited and controlled, resulting in less ongoing scientific research than would otherwise be the case if accessibility was easier, as it is on Marion Island.
[526] For a detailed summary of the history of the introduction of both mice and cats on Marion Island, the scientific studies taken with regard to both and the steps taken to eradicate them (completed in the case of cats and ongoing in the case of mice) see DEAT op cit note 479.
[527] "Up to 1989, research was directed by the South African Council for Scientific and Industrial Research (CSIR). Research at the Islands is now administered and directed by the DEA & T's South African Committee for Antarctic Research (SACAR)." DEAT op cit note 479 pg. 14.
[528] This proposal was mooted by the apartheid era government without any environmental consideration (no EIA was conducted) and, though ostensibly to facilitate service of the meteorological station on Marion Island and the conduct of scientific research, it was in all likelihood motivated by strategic Southern Ocean political and military interests. See Cooper & Headland op cit note 350 and Dodds KJ, Hemmings AD, & Roberts P, Handbook on the Politics of Antarctica Cheltenham Edward Elgar, 2017. The resultant environmental backlash, a source of embarrassment to the SA government, is at least partially responsible for the subsequent significantly improved approach to the management of the Prince Edward Islands.
[529] The department of Environmental Affairs eventually conducted an Environmental Impact Assessment which concluded that constructing the airfield was "not desirable" because of "the impact it will have on that fragile environment particularly during the construction stage." Heymann G, Erasmus T, Huntley BJ, Liebenberg AC, De Retief G, Condy PR, & Van der Westhuysen OA, "Report to the Minister of Environment Affairs on an

islands and the "[t]he official report on the landing facility proposed that the Prince Edward Islands should be declared a wilderness region."[530]

As early as 1973, South African environmental legislation was made applicable to the PEIs, specifically in this instance the Sea Birds and Seals Protection Act 46 of 1973 and in 1988 the Sea Fisheries Act 12 of 1988 was enacted

> "…with a view to- (a) the protection of the marine ecology; and (b) the promotion, protection and sustained utilization of the sea, its living resources and derivatives thereof."[531]

This was specifically made applicable to the PEIs[532] and replaced the earlier 1973 Sea Fisheries Act 50 of 1973. In 1989 the Environment Conservation Act 73 of 1989 was expressly made applicable to the PEIs.[533]

The advent of the Madrid Protocol, finalised in 1991, supported by South Africa from inception and ratified by South Africa in July 1995, was of great significance in ushering in a comprehensive environmental protection regime for Antarctica. Although, technically, the PEIs fall outside the designated area of application of the Protocol, the Protocol nonetheless had a significant effect on the environmental conservation of the PEIs. Shortly after ratifying the Protocol, South Africa, in November 1995, in terms of section 18 the Environment Conservation Act, declared the PEIs a Special Nature Reserve.[534] Subsequently, through an act of parliament, The Antarctic Treaties Act 60 of 1996, South Africa incorporated the Protocol into South African law[535] and the Act went on to state at section 11 "Application of Act to Prince Edward Islands" that;

> "Where, by virtue of the definition of 'Antarctica', a treaty is applicable to the Prince Edward Islands, referred to in section I of the Prince Edward Islands Act, 1948 (Act No. 43 of 1948), this Act shall also apply to those islands."

environmental impact assessment of a proposed landing facility on Marion Island – 1987" South African National Science Programme Report, 1987 140 1-209.

[530] Dodds op cit note 305 pg. 411.

[531] Section 2 of Act 12 of 1988.

[532] Section 54 of Act 12 of 1988.

[533] Section 4(1).

[534] "In 1995, the Islands were declared to be special nature reserves in terms of section 18 of the Environment Conservation Act 73 of 1989." Vrancken op cit note 479 pg. 70.

[535] Antarctic Treaties Act 60 of 1996 Section "3(1) Subject to this Act, the treaties mentioned in Schedule 1 shall form part of the law of the Republic." Schedule 1 includes,

> "I Antarctic Treaty
> II Protocol on Environmental Protection to the Antarctic Treaty
> III Convention for the Conservation of Antarctic Seals
> IV Convention on the Conservation of Antarctic Marine Living Resources"

This, and the developments that followed (a comprehensive management plan[536] and further special protection), represented a significant change in attitude and commitment towards the protection of the Islands. This will, however, be discussed in the chapter following.

3.7.1.2 Southern Ocean

Initially motivated by commercial interests, at first sealing, then whaling, South Africa, or to be more accurate, individual South Africans, had been involved in research in the South Ocean since before the advent of the Antarctic Treaty. As Nel notes, "As regards the Southern Ocean, a great deal of oceanographical work has been done during the voyages of the research vessels 'Discovery I' and 'Discovery II'".[537] Nel, however, goes on to contextualise this research by suggesting that scope exists for further research, especially into krill and fish, "being of supreme importance to the fishing industry around the coasts of South Africa."[538] The Discovery research voyages took place in the 1920 and early 1930s (Discovery I, - Scott's ship) and in the 1930s and 1950s (Discovery II)[539] but were not South African voyages, although South Africans did, on occasion, participate.[540] The IGY/IPY saw an increase in interest in the Southern Ocean by South Africa and the need to maintain regular supply and service voyages to Gough Island and Marion Island provided the opportunity to use the voyages for research purposes, although the vessel initially used was a naval vessel, the HMSAS Transvaal.[541] In 1962 South Africa demonstrated its commitment to Antarctica by commissioning the M.S. RSA as a dedicated relief vessel, thereby also improving the scope for Southern Ocean Research.[542] However, as Siegfried noted in 1991,

> "Properly planned and operated ship-based oceanographic research was a relatively late starter in South Africa's Antarctic programme, commencing some 15 years ago [1975]."[543]

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[536] In 1996 a thorough and comprehensive management plan was published. "The main thrust of the Management Plan (May 1995) is concerned with the environmental protection of the Prince Edward Islands and the coordination of scientific priorities for the region." Dodds op cit note 482 pg.2.
[537] Nel op cit note 511 pg. 3.
[538] Ibid.
[539] For an interesting insight into the work of the RRS Discovery II see Herdman HPF, "The Royal Research Ship Discovery II 1929–62", *Journal of Glaciology*, 1963 4 (35), 575-580. "The ship itself was no stranger to South African waters, as it had visited Cape Town on numerous occasions in the 1930s whilst carrying out research into whales and their food chains in the Southern Ocean." Dodds op cit note 307 pg. 30. See also Ommanney FD, *South Latitude* London, Longmans, Green & Co., 1938.
[540] "Two other members of the Discovery expeditions, Ron Currie and Archibald J Clowes (who joined the then South African Sea Fisheries Branch) made significant contributions to knowledge of the Benguela Current off South Africa in the 1950s." Cooper & Headland op cit note 350 pg. 81. "The following year, [1938] South Africa managed to send a junior officer from Fisheries on a short Discovery II voyage which reached the ice-pack." Van der Watt & Swart op cit note 350 pg. 279, referring to Charter Report on visit to the Antarctic on the R.R.S Discovery II received 18 Nov. 1938, HEN 2491/455, Vol. 1, SANA.
[541] Subsequent to the 31 May 1961, the SAS Transvaal.
[542] "In 1962 the Department acquired its own relief vessel the M.S. RSA (1 572.92 tons) built to the Department's specifications in Japan." Kingwill DG, "First Ten Years of South African Antarctic Research", *South African Journal of Antarctic Research* 1971 1 pg. 2.
[543] Siegfried op cit note 414 pg. 226.

South Africa demonstrated its commitment to its sub-Antarctic and indeed its Antarctic programmes by commissioning, in 1978, a new ice-strengthened dedicated polar supply ship, the SA Agulhas,[544] to replace the M.S. RSA. Although not originally designed as a research vessel, oceanographic research capabilities were added, indicating South Africa's increased involvement in ship-based oceanographic research.

South Africa had also committed itself to the development and implementation of CCAMLR, that quintessential Southern Ocean protection treaty, which was signed in 1980 and which came into effect in 1982.[545] In this it played a not insignificant role through, inter alia, Denzil Miller,[546] a marine scientist who was South Africa's representative at the CCAMLR meetings from 1979 to 2002. Miller was widely recognised as a leading expert on krill and chaired the CCAMLR Krill working group from 1987 to 1994.[547]

South African research in the Southern Ocean has, however, not been limited to krill, and Siegfried provides a synopsis of some of the scientific work done in his paper "Three Decades of South African Science in Antarctica".[548] He points out that Southern Ocean research has become an important aspect of South Africa's Antarctic scientific footprint.[549] This is in part due to the coordinated and cooperative approach to oceanographic research adopted by several South African institutions.[550] Siegfried notes "leading contributions [to] the Scientific Committee of the IWC (International Whaling Commission) and in the Scientific Committee of the CCAMLR,"[551] as well as highlighting some of the more important publications that have arisen from South Africa's Southern Ocean research which he regards

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[544] The SA Agulhas remained in service until 2012 and serviced Gough Island, Marion Island and the SANAE bases in Antarctica on a regular basis, in addition to providing a much-appreciated service to Tristan da Cunha. (https://www.webcitation.org/query?url=http%3A%2F%2Fwww.tristandc.com%2Fnewsshipping.php&date=2011-10-12. September 2020.) She was also involved in the rescue of 89 Russian Antarctic expedition members from the Magadelena Oldendorff in 2002. (https://www.webcitation.org/5tESoTxfE?url=http://www.marcon.com/marcon2c.cfm?SectionListsID=85&PageID=241. September 2020.)

[545] "During the apartheid era, successive governments had … advocated the negotiation and adoption of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in 1980." Dodds op cit note 305 pg. 401.

[546] "South African scientists such as Dr Denzil Miller have contributed significant research on living resources in the Southern Ocean." Dodds op cit note 305 pg. 401.

[547] Miller also chaired the CCAMLR scientific committee from 1997 to 2000, and was the Executive Secretary for CCAMLR from 2002 until 2010. CCAMLR describes Miller as having "played a central role in Antarctic affairs for over forty years" and his contribution to CCAMLR as "unparalleled." Professor Denzil Miller AM. Obituary https://www.ccamlr.org/en/news/2019/professor-denzil-miller-am. September 2020.

[548] Siegfried op cit note 414.

[549] Siegfried notes that "The oceanographers, however, very rapidly established for themselves a creditable reputation for innovative research that from the start has continued to attract interest and compliments both nationally and internationally [and] South African oceanographic research and researchers played key roles in both the planning and execution of BIOMASS (Biological Investigation of Marine Antarctic Systems and Stocks)." Siegfried op cit note 414 pg. 226.

[550] "The South African community of marine scientists has carefully nurtured a remarkable degree of interdisciplinary and interinstitutional cooperation and multidisciplinary collaboration, [which] has spilled over, with considerable benefit, to the oceanographic component of the South African Antarctic science programme." Siegfried op cit note 414 pg. 226.

[551] Ibid.

as 'benchmarks' in research.[552] In addition the continued commitment to oceanographic research was demonstrated by the refitting of the SA Agulhas in 1992 with new research laboratories.[553]

3.7.1.3 Antarctic Continent

South Africa has maintained an uninterrupted permanent scientific presence on the Antarctic continent ever since it established its first base in January 1960. However, South African involvement in scientific research on Antarctica predates its permanent presence on the continent. The South African contribution to the IGY/IPY, specifically the Fuchs-led Commonwealth Trans-Antarctic expedition of 1955 to 1958, has already been mentioned and interestingly, South Africans had been involved in Antarctic scientific research even without being present on the continent.

> "Even though South Africa did not have its own geological research programme on Antarctica during the IGY, geologists in South Africa used materials collected from "fieldwork in the southern realms" to support Wegener's theory [of continental drift]. At the first SCAR science meetings, the South African research that drew the most attention was that of the distinguished paleo-botanist Edna Plumstead of the University of Witwatersrand, who defended continental drift theory through the study of Antarctic plant fossils."[554]

In addition, South Africa was a founding member of SCAR,[555] (a sub-committee of the International Council of Scientific Unions (ICSU)) established during the IGY/IPY specifically with a view to mapping out the future of scientific research in Antarctica after the IGY/IPY.[556] Initially the Special Committee on Antarctic Research, it subsequently was renamed the Scientific Committee on Antarctic Research and it met for the first time in 1958 during the IGY/IPY.[557]

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[552] "Hecht's Practical Guide to the Otoliths of Southern Ocean Fishes appeared in 1987; Miller and Hampton produced a definitive review of the biology and ecology of the Antarctic krill (Euphausia superba) in 1989 and the widely acclaimed Fishes of the Southern Ocean edited by Gon and Heemstra was published in 1990." Siegfried op cit note 414 pg. 226.

[553] In 1992 … the SA Agulhas, will be refitted with new laboratories and additional other facilities to permit modern, fully integrated, oceanographic research Siegfried op cit note 414 pg. 225.

[554] Van der Watt op cit note 244 pg. 77.

[555] "South Africa was a founding member of SCAR." Dodds op cit note 305 pg. 401.

[556] In 1957 the ICSU Antarctic meeting asked the twelve nations actively engaged in Antarctic research (and several scientific bodies) to form a Special Committee on Antarctic Research (SCAR). SCAR first met in February 1958. https://www.scar.org/about-us/history/. September 2020.

[557] The South African Institute of International Affairs (SAIIA) report on Antarctica provides a brief summary of the role SCAR plays, "SCAR is an international body operating within the International Council of Science (ICSU) framework. SCAR's mandate is to initiate, develop and co-ordinate international scientific research in the Antarctic region. SCAR also provides scientific advice to the ATCM on science and conservations matters that affect the management of the Antarctic and the Southern Ocean.", as well as noting South Africa's ongoing involvement in SCAR, "SANAP, through SCAR, submits an annual report to the ICSU. Several South Africans participate in international SCAR working and specialist groups, and in capacity-building programmes to promote the involvement of young scientists." Sidiropoulos & Wheeler op cit note 452 pg. 31.

As has been previously mentioned, individual South Africans had also been active in research in Antarctica, but through other agencies.[558] However, it was with the establishment of a permanent station that Antarctic scientific research could commence in earnest. The first South African National Antarctic Expedition (SANAE),[559] consisting of 10 men, took over the Norwegian base on Fimbulisen, Kronprinsesse Martha Kyst in Dronning Maud Land (Fimbul Ice Shelf in Queen Maud Land) on the 15th January 1960. Cooper and Headland note that, in addition to meteorological research, the team also conducted "[g]laciological and geological fieldwork and bird observations,"[560] including "a five-week field trip with huskies to several [previously unvisited] nunataks in the northern Ahlmannryggen … in November/December 1960."[561] Siegfried describes early scientific activity as including "initially, meteorological activities, glaciology, upper atmosphere physics and earth-science research projects".[562] Kingwill points out that shortly after the South African Station was established, it was discovered in 1961 that it was well placed for research into the southern radiation anomaly, which led to "a concentration of effort on the ionosphere, cosmic ray, airglow, geomagnetic and meteorological programmes."[563]

(i) SANAE I 1962 - 1971

The second SANAE occupied the Norway Station, now South African Station, in 1961, and was replaced in early 1962 by the third SANAE, aboard the newly commissioned MV RSA, South Africa's first purpose-built Southern Ocean and Antarctic supply vessel. This expedition constructed a new South African base nearby (the old Norway Station had become beset by accumulated snow and ice and was unsustainable), which was named SANAE.[564] Scientific research was conducted from this base as well as two field bases set up specifically to facilitate scientific research. The first, Borga, was established 350 km south of SANAE I at Huldesrottet in the Borgmassivet in May 1969 and was used for geological research.[565] The second, established 195 km south of SANAE in 1971, was at Grunehogna and was also used primarily for geological research.[566] South Africa's developing commitment to scientific research, geological research in particular, was also noted at the

[558] "Dr Raymond J Adie … is the first South African-born scientist to have worked in the Antarctic, spending three consecutive winters on the Antarctic Peninsula in 1947 to 1950 with the newly established Falklands Islands Dependencies Survey." Cooper & Headland op cit note 350 pgs. 81-82 and "Two South African meteorologists of the Weather Bureau, Gordon Artz and Johan Bothma, spent 1959 with the British FIDS at Halley Bay in Coats Land, Antarctica." Cooper & Headland op cit note 350 pg. 82.
[559] South African Antarctic expeditions are referred to by the Acronym SANAE and the number of the expedition. The first was thus SANAE 1.
[560] "…including finding breeding snow petrels (Pagodroma nivea)." Cooper & Headland op cit note 350 pg. 82.
[561] Ibid.
[562] Siegfried op cit note 414 pg. 226.
[563] Kingwill op cit note 541 pg. 2.
[564] Cooper & Headland op cit note 350 pg. 83. Referred to, in retrospect, as SANAE I, once it was replaced in 1979 by a new base, SANAE II. See also Siegfried "[I]n 1962, South Africa's first permanent Antarctic base, SANAE (South African National Antarctic Expedition), was set up some distance away from Norway Station." Siegfried op cit note 414 pg. 225.
[565] See generally Cooper & Headland op cit note 350 pg. 83 and specifically Wolmarans LG, & Kent LE, "Geological investigations in western Dronning Maud Land" *South African Journal Antarctic Research* 1982 Suppl. 2 1-93.
[566] Cooper & Headland op cit note 350 pg. 83.

1963 SCAR meeting which it hosted. Van der Watt notes that at a SCAR-organised special symposium on Antarctic Geology, held during the SCAR meeting, South African-led geological research was influential in the gradual acceptance of the continental drift theory, previously propounded by Wegner, du Toit and, of course Edna Plumstead.[567]

(ii) SANAE II 1971 - 1979

SANAE II was built in 1971 to replace SANAE I, which had become icebound. Research continued along much the same avenues of focus as in the preceding years. Indeed, Cooper & Headland note that, with regard to geological research, by 1976 most of the exposed geological formations within reach of SANAE II had been surveyed and that research further afield only became possible with the deployment of helicopters, which were facilitated by the commissioning of the RV Agulhas, which had the necessary capacity.[568] This occurred simultaneously with the replacement of SANAE II, which by 1979 was also succumbing to the ice. It was replaced by SANAE III.

(iii) SANAE III 1979 – 1997

SANAE III was built in the 1979 to 1980 season, also on the Fimbul Ice shelf, and served the same purposes as SANAE II, continuing South Africa's ongoing scientific research. The new base and new support enabled South Africa to expand its research and the geographical ambit thereof. South Africa was able, during the 1980/1981 summer, to recommence "geological, geophysical and surveying programmes"[569] and was also able, in the summer of 1982/1983, to establish a new summer base, Sarie Marais, at Grunehogna.[570] This period also saw an expansion in the areas of South African scientific research on the continent, with the commencement of biological research.[571] At the time of his writing, in 1995, Dodds was able to state of South Africa's scientific research that,

> "The Antarctic research programme approved for 1993-1994 continued to concentrate on studies of the Antarctic atmosphere, the monitoring of the Queen Maud ice cap, and research on Marion Island. There have also been a number of important international collaborative projects that support those research objectives. One such example is the Southern Hemisphere Auroral Radar Experiment

[567] "The SCAR included a special symposium on Antarctic geology. The symposium was led by South African-educated British Antarctic Survey geologist Raymond Adie and reported on the geological similarities between South Africa, Antarctica and other southern hemispheric countries. The symposium was credited with making a significant contribution to the acceptance of continental drift theory by northern hemisphere geologists." Van der Watt op cit note 244 pg.77.
[568] "In 1980/1981 two long-range Aerospatiale Puma helicopters became available on South Africa's new Antarctic supply/research vessel, the 5 353-tonne mv SA Agulhas." Cooper & Headland op cit note 350 pg. 83.
[569] Ibid.
[570] "The Sarie Marais summer base was erected in the 1982/1983 summer at Grunehogna (SASCAR 1984) and continues in use." Cooper & Headland op cit note 350 pg. 83.
[571] "Biological research, operated from SANAE, began relatively late in 1989." Siegfried op cit note 414 pg. 225. See also Cooper & Headland op cit note 350 pg. 83.

(with Britain and the USA), which is designed to monitor climatic change in the southern hemisphere and oceans."[572]

SANAE III itself, like its three predecessors, proved susceptible to the ice, and by the end of the decade had deteriorated[573] to the extent that it needed to be replaced. Plans commenced in 1988 to do so. By 1991 the Madrid Protocol was in the early stages of development and South Africa decided to approach the replacement of SANAE III with the construction of SANAE IV in compliance with the prospective Protocol's environmental impact assessment provisions.[574]

(iv) SANAE IV 1997 - present

A new location, Vesleskarvet,[575] was identified for SANAE IV, approximately 220km south of SANAE III[576] and on the Antarctic mainland, not the ice shelf. Vesleskarvet is a nunatak, an exposed rock ridge or summit that protrudes above an ice sheet or ice field. The windswept and exposed rock nature of nunatacks in general and Vesleskarvet in particular means that SANAE IV is not exposed to the same risk of being buried by ice as were SANAEs I to III. Occupied in 1997, SANAE IV became the focal point of South African Antarctic research, which was divided into four programmes: "Physical sciences, Earth sciences, Life sciences, [and] Oceanographic sciences."[577] The station has been occupied ever since. Although, technically, SANAE IV was commissioned and occupied well into the advent of democracy (in 1997), it had been planned, initiated, financed and committed to prior to these dramatic changes[578] and thus is partially discussed here, especially the scientific aspects of research and commitment that were already in place. Scientific research programmes initiated after the advent of democracy will be discussed under South Africa's present and ongoing commitments.

The gradual increase in quality, capacity and capabilities of the South African stations over the decades is evidence of an ongoing and deepening commitment to South Africa's scientific role in Antarctica. Indeed, the construction of SANAE IV was itself a scientific feat

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[572] Dodds op cit note 307 pg. 39.
[573] "The condition of SANAE III had worsened considerably in the 1987-88 season when the base structure began to collapse due to pressure from the ice." Dodds op cit note 305 pg. 407.
[574] "It was announced that any new construction programme would have to adhere, as closely as possible, to Articles 1 and 2 of Annex I of the Protocol, which dealt with environmental impact assessments (EIAs)." Ibid.
[575] It is located on the west side of Ahlmann Ridge in Queen Maud Land.
[576] https://www.sanap.ac.za/explore/stations#SanaeIV. October 2020.
[577] https://www.sanap.ac.za/explore/stations#SanaeIV. October 2020. By 2009 the SANAP research portal described these four areas as "biological sciences, earth sciences, oceanography and physical sciences" once biological scientific research had commenced. http://www.sanap.org.za/sanap_research/sanap_research.html. October 2020.
[578] "Planning and budgeting for a new base began in 1989-90 and it was anticipated that the new base would be complete in the 1994-95 summer season."Dodds op cit note 305 pg. 407. "With the assistance of the NDPW, the DEA&T began a feasibility study in 1991 that concluded that the new base should be located in Dronning Maud Land. In 1992, armed with 'The Integrated Environmental Management Guideline Series', the DEA&T commissioned a formal investigation." Dodds op cit note 305 pg. 407. The base was, however, due to delays only opened in 1997.

of design and ingenuity. The station is constructed on stilts and is carefully located to ensure that snow blows under the station instead of building up on and around it. This was a revolutionary concept at the time that it was first implemented[579] and has proved extremely successful. So much so, in fact, that several other significant stations have adopted the design concept. These include both the British Antarctic Survey's Halley Research Station and Germany's Neumayer III Station.[580] In addition to the design and engineering innovation, "Sanae IV was the first base in Antarctica to have a sewage treatment and water-purification system, fibre-optic cables and a raised fibreglass design."[581]

3.7.2 Political involvement

It has been said that science and research are the political currencies of Antarctica[582] and it is true that, notwithstanding tremendous on the ground cooperation between nations, scientific research since the advent of the Antarctic Treaty is largely structured along national lines.[583] The requirement that for a place at the political table of Antarctic governance, a physical place of scientific research endeavour on the continent is required, demonstrates just how inextricably linked these two aspects are. However, in some respects the political dimensions of a nation's Antarctic interests can sometimes be separated from its purely scientific endeavours. The lines do, however, often remain blurred. South Africa's political involvement in Antarctica after the advent of the Antarctic Treaty is a clear example of both the interconnected nature of politics and science and also, paradoxically, an example of the separation. As discussed earlier, South Africa, politically determined to participate in the creation of an Antarctic governance regime, was able to raise its scientific profile sufficiently to warrant its inclusion. As noted earlier, securing a place at the political table obliged South Africa to affirm, entrench, develop and, expand its scientific commitment. But what of South Africa's political role in Antarctic affairs in the Antarctic Treaty era?

3.7.2.1 The Prince Edward Islands

[579] "South Africa had established itself as a force in ice engineering when it unveiled Sanae IV in 1997 – then the most high-tech base in all of Antarctica." Walters T, "An inside account of the trials and tribulations behind the development of Antarctica's E-Base" Engineering News, 27th August 2010. https://www.engineeringnews.co.za/article/extreme-engineering-2010-08-27/rep_id:4136. October 2020.
[580] And subsequently the Ferraro Choi designed South Pole Station which drew inspiration from, inter alia, the Halley V Station stilts. Nielsen H, "From Shelter to Showpiece: The Evolution of Scientific Antarctic Stations" The University of Canterbury, Research Project, 2014.
[581] Walters op cit note 578.
[582] Press A, "Antarctica: a serious research venue, not a playground for boffins" Australian Strategic Policy Institute, April 2013, https://www.aspistrategist.org.au/antarctica-a-serious-research-venue-not-a-playground-for-boffins/. June 2021.
[583] There are indeed examples of joint and international stations (Concordia for example) and, especially, scientific research projects (for example the Swiss Polar Institute Antarctic Circumpolar Expedition (ACE) and the Super Dual Auroral Radar Network (SuperDARN)) but for the most part stations are designated nationally.

As South Africa's claim to the PEIs is uncontroversial and internationally recognised, there is little to say in relation to any political developments or administration, during this period, that had an impact of South Africa's Antarctic interests, other than the development and management of its scientific and environmental interests, discussed above. Indeed, the fact that South Africa's political agenda in the PEIs increasingly became environmentally and scientifically driven over this period is, perhaps, the most important point. Initially managed by the Department of Transport,[584] which was responsible for the weather station, the gradual increase of scientific and academic activity, the development of environmental protection measures and ultimately bringing the management of research activities on the PEIs within the South African National Antarctic Programme (SANAP), is of great significance. This process was influenced by a developing international environmental consciousness, and of course, on a more geographically immediate manner, by CCAMLR. South Africa had already, in 1979, afforded the marine environment around the islands some protection by declaring "a 200-mile exclusive fishing zone around the Prince Edward Islands"[585] and, "[s]ince that period, the South African Navy has devoted time and resources to protecting this zone from illegal, unreported and unregulated fishing."[586] CCAMLR, however, significantly reinforced these nascent steps. South Africa was a founder member of CCAMLR and thus fully cognisant of its novel ecosystemic approach to marine conservation which included the PEIs within its area of application, thus providing some protection to the ocean around the islands.[587] As Dodds notes,

> "CCAMLR recognised that the management of living resources in Antarctica and the Southern Ocean would have to include island groups such as Prince Edward in any ecosystem approach to the Southern Ocean. The geographical location of these island groups on the edge of the Antarctic Convergence means that they are an integral part of CCAMLR's management strategies."[588]

This shift in governance attitude is mirrored in some of the practical developments made during this period, such as the decision to eradicate the feral cat population[589] which evidenced a greater understanding and commitment to the protection of the PEIs.[590] The eventual development of a code of conduct[591] to regulate all activities on the islands came

[584] Kingwill notes that South Africa's early Antarctic activities were simply managed as an extension of its meteorological activities on Marion and Gough Islands. "South African Antarctic activities are managed by the Department of Transport which also operates the Weather Bureau. The Department is responsible for maintaining weather observing stations on Marion Island (40°52'34"S, 37°51'40"E) and Gough Island (40°21'00"S, 09°52'40"W) and the Antarctic Station, Sanae, is a logical extension of these activities." Kingwill op cit note 541 pg. 2.
[585] Dodds op cit note 305 pg.412.
[586] Ibid.
[587] Monteiro PMS, "Marion and Prince Edward Islands: the legal regime of the adjacent maritime zones" Sea Changes Institute of Marine Law Newsletter, 1987, University of Cape Town 5 63-109.
[588] Dodds op cit note 305 pg. 411.
[589] Five domestic cats had been introduced to Marion Island (only) in 1949 to eradicate the house-mouse (themselves introduced aliens) population. Cooper & Headland op cit note 350 pg. 79.
[590] Cooper J, & Condy PR, "Environmental Conservation at the sub-Antarctic Prince Edward Islands" *Environmental Conservation* 1988 15 317-326.
[591] Visagie WF, Code of conduct. Prince Edward Islands. Department of Environment Affairs, Pretoria, 1998.

to fruition in 1988.[592] Work started in 1992 on developing a comprehensive management plan to replace the code of conduct.[593]

However, South Africa's political management of the PEIs has not been exemplary, with incidents of political unaccountability and evidence of a lack of environmental concern and awareness on a few occasions. Cooper & Headland note, for example the construction of a hydroelectric plant in the late 1970s and early 1980s without a prior environmental impact assessment and the "deliberate dumping of contaminated diesel fuel into the sea on three occasions in 1980 and 1981 caused the oiling and subsequent death of over 250 penguins."[594] However, by far the most controversial incident involved the proposed construction of landing strip for foxed wing aircraft. This proposal was also initiated without consultation or an environmental impact assessment, relatively indicative of the authoritarian, pariah, apartheid regime which, when it became known, attracted widespread and public criticism and condemnation.[595] In some respects this marked a turning point in the protection of the PEIs as a comprehensive environmental impact assessment was commissioned and conducted in 1987, and which recommended that the project be abandoned.[596] Dodds somewhat overstates the flaws in South Africa's political management of the PEIs stating that

> "the management of the Prince Edward Islands has been plagued by controversy because South Africa not only sought to construct a landing strip but also proposed shooting the feral cat population in 1986- 87."[597]

He does, however, concede not only that the plan was abandoned for environmental impact reasons (evidence of a switch to responsible decision-making), but also that the EIA that was conducted was influential in determining the path that future management of the PEIs would embark upon.[598] This path commenced with the management guidelines of 1988, was lent considerable impetus with the negotiation of the Madrid Protocol in 1991, and was firmly entrenched by the drafting of a comprehensive conservation-orientated management plan which commenced in 1992. As Dodds concedes,

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[592] "In 1988, a code of conduct was adopted for people taking part in activities at the islands following Cooper & Condy's review of environmental conservation at the Prince Edward Islands." Cooper & Headland op cit note 350 pg. 81. For more on the development of a dedicated environmental consciousness with regard to the Prince Edward Islands see, Cooper J, "The current conservation status of the subantarctic Prince Edward Islands" in Proceedings of the SCAR/IUCN Workshop on Protection, Research and Management of Sub-Antarctic Islands, Paimpont, France, 27-29 April 1992, Dingwall PR, (ed.) World Conservation Union, Gland.
[593] "The code of conduct is being replaced by a management plan that is being drafted during the course of 1992." Cooper & Headland op cit note 350 pg. 81.
[594] Ibid.
[595] "This plan resulted in much adverse public comment, from within and outside South Africa." Cooper & Headland op cit note 350 pg. 81.
[596] Heymann op cit note 528. The EIA was comprehensive, described by Cooper & Headland as "as model of its kind" and a lot of its content was incorporated into the Prince Edward Islands Management Plan that was subsequently drafted. Cooper & Headland op cit note 350 pg. 81.
[597] Dodds op cit note 305 pg. 411.
[598] "The official report on the landing facility proposed that the Prince Edward Islands should be declared a wilderness region." Dodds op cit note 305 pg. 411.

> "South African participation in the Antarctic and the PEI has undoubtedly been shaped by the provisions of the Madrid Protocol and the growing awareness of environmental issues in the polar continent. The recent trends towards formulating management plans for SANAE IV and the PEI are a welcome development."[599]

The Prince Edward Island Management Plan, completed in 1995 and subsequently implemented,[600] and the ongoing implications for the management of the PEIs will be discussed in the next chapter.

3.7.2.2 Antarctica

With a group of nations as small as 12, no participation in the creation of a treaty is insignificant. South Africa's role in the creation of the Antarctic Treaty has already been discussed, but is usefully summed up by Dodds who notes that "[a]s an original signatory to the 1959 Antarctic Treaty, South Africa played a role in shaping the environmental, political and scientific dimension of the ATS."[601] South Africa's immediate subsequent involvement was also politically uncontroversial. It participated as a founding Consultative Party in all ATCP meetings and in meetings of SCAR.[602] During this time SA was a firm and committed supporter of the Antarctic Treaty principles, in particular the use of Antarctica for peaceful purposes and the AT's developing environmental focus.[603] Indeed, as noted previously, it hosted the 1963 SCAR meeting. South Africa's political interests, like most other countries involved at this stage in Antarctica, were not, however, limited to science and environmental protection. As Verbitsky notes,

> "South Africa's interests in Antarctica were outlined in 1966 by the Department of Foreign Affairs as fourfold: national security (centred on the idea of containing, as far as possible, the Soviet Union's strategic foothold in Antarctica—a concern that predated the Antarctic Treaty); the potential commercial value of the continent; the importance of Antarctica as a staging post for air communications; and the significance of Antarctic meteorological data for South African weather patterns."[604]

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[599] Dodds op cit note 482 pg. 2.
[600] The Prince Edward Islands Management Plan 1996 was subsequently updated in 2010.
[601] Dodds op cit note 305 pg. 401.
[602] "During the period from the 1950s through the 1970s, South Africa managed to participate in the meetings of SCAR and the Antarctic Treaty Consultative Meetings without any great diplomatic difficulties." Dodds op cit note 305 pg. 401.
[603] "During the apartheid era, successive governments had argued strongly in favour of retaining the demilitarised status of the Antarctic and advocated the negotiation and adoption of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in 1980." Dodds op cit note 305 pg. 401.
[604] Verbitsky J, "South Africa, Antarctica, and the ATS: An Unrealized Foreign Policy Leadership Opportunity" *Politikon*, 2015 42 (2), 195-218, pg. 200, quoting Hanekom W "A history of tourism, leisure and adventure in the Antarctic and SubAntarctic, c.1895 to present" Unpublished MA thesis, Stellenbosch University, 2013 pgs. 44-45 and 52-53.

It is generally recognised that South Africa, though by no means one of the Antarctic powerhouses,[605] has maintained a consistent and respectable political and scientific presence. Vitally, from a political point of view, South Africa occupied (and indeed it still does occupy) a unique role in Antarctica, the importance of which cannot be overstated. It was (and still is) the only Southern Hemisphere (Antarctic rim) country which is an original Consultative Party which is also not a territorial claimant or which does not reserve the right to make a territorial claim. While there were other non-claimants, neither Japan nor Belgium are geographically proximate. It is also a territorial land-holder within the sub-Antarctic zone through the Prince Edward Islands. While many other sub-Antarctic islands are also territorially held by other nations, all — Britain, France, Norway, Australia, New Zealand and Argentina — have Antarctic continental territorial claims. Neither Belgium nor Japan claim any Southern Ocean overseas territories. Coupled with this unique location within the early consultative party Antarctic Treaty framework was the fact that South Africa is the only country on the continent of Africa to be directly (or even indirectly) involved in, and committed to Antarctica. That this was the case for 60 years and is still the case today is tremendously significant when examining South Africa's current position on Antarctica and the future role it might, or should, play, which will be discussed in due course. Dodds, writing in 1995 at the advent of democracy in South Africa, but describing South Africa's contribution up to that point, notes this uniqueness, stating that,

> "South Africa has occupied an important diplomatic role in the ATS, as it is the only original non-claimant nation of the ATS located in the southern hemisphere. Officials have argued that South Africa has been able to play a useful diplomatic role in terms of negotiating between the agenda of claimant and non-claimant states within the ATS. During a period of 35 years, South Africa has participated in all the activities of the ATS."[606]

3.8 Conclusion

Although 1994 is some time ago now and although the end of the Question of Antarctica is somewhat more recent, the change in government and the advent of democracy in South Africa not only changed South Africa's place in the world, but also heralded a comprehensive re-evaluation and almost diametrically opposed approach in every sphere of government, domestic and international. Given that, notwithstanding apartheid, as Dodds puts, "During a period of 35 years, South Africa has participated in all the activities of the ATS,"[607] the question of whether there would be changes in South Africa's approach to its

[605] In budgetary terms South Africa's expenditure is quite small at only R 915 million (just less than 50 million USD) relative to that of the other consultative parties. For example, the 2022 USA Antarctic budget was 216 million USD. https://nsf-gov-resources.nsf.gov/about/budget/fy2022/pdf/66c_fy2022.pdf. February 2025. "The BAS annual budget is around £50 million." https://www.bas.ac.uk/about/about-bas/our-organisation/. February 2025. Australia, for the 2023-24 year will "administer an operating appropriation of over $290.2 million to support delivery of the Australian Antarctic Program." https://www.dcceew.gov.au/sites/default/files/documents/77327.pdf. February 2025.
[606] Dodds op cit note 307 pg. 39.
[607] Ibid.

Antarctic participation and commitments arose. South Africa's involvement since 1994 to date, the present era, will be discussed in the next chapter.

Chapter 4 SA's involvement in Antarctica post-1994

4.1 Introduction

The end of apartheid and the election of a democratic government was a watershed moment in South Africa's history. It was, however, not an instantaneous transformation. It was not the work of a moment and indeed, not every aspect of South Africa's apartheid past was resolved in the 1994 events that marked the transformation. This was particularly true of Antarctica where its remoteness, isolation, self-contained sufficiency and the relatively small scale and uncontroversial nature of the various South African enterprises in the Antarctic and sub-Antarctic (and indeed elsewhere[608]) meant that the advent of democracy had no immediate discernible effect.

Several significant South African Antarctic events straddled this transitional period in the country's history and, for the most part, they proceeded uninterrupted by the momentous events taking place on the political and social stages of the day. The new SANAP base, SANAI IV was officially opened in 1997, but had been in planning and construction stages since 1989. The Prince Edward Islands Management Plan, the ongoing implementation of which commenced in 1996, had been several years in the crafting, and was itself preceded by the Code of Conduct developed from the EIA conducted in the late 1980s with regard to a proposed (probably military) airstrip. The Environmental Management Act was passed in 1989 but was used in 1995 to declare the PEIs an environmental reserve. The Madrid Protocol, signed by SA in 1991, was unofficially applied to the design of SANAE IV in the early 1990s, was ratified by SA in 1995, but only officially came into force in 1998. This list goes on, but what it does show is that, in many respects, the course and pace of life (research, science, environmental conservation, resource management – and exploitation) in Antarctica has a relentlessness about it that supersedes national agendas and events, no matter how significant they may have been.

This chapter will focus on South Africa's present involvement in Antarctica over the period from the advent of democracy in 1994 to the present day. This significant period of the immediate past has been included as not only do the events of 1994 provide a useful and (relatively) clear mark in the continuum of South African Antarctic involvement, but also because they ushered in a new era in South Africa's history. This era is very much the "present" in which South Africa currently finds itself. This is also a critical time for Antarctica[609] and thus South Africa's present, and policies concerning Antarctica are important both because of what they say about South Africa's attitude to the Antarctic (and its own involvement therein), and also because they provide a platform for an analysis of the role South Africa could (and should) play in the future, in much the same way that South

[608] For example, although not uncontroversial, in the UNGA where the removal of the demand for South Africa's expulsion form the ATS from the Question of Antarctica preceded the 1994 elections.
[609] Antarctica faces a number of challenges including (but not limited to) global warming, invasive alien species, competition for resources, tourism and a changing global political landscape, to mention but a few.

Africa's present position could not be understood without a detailed knowledge of its historical involvement, and a detailed knowledge of Antarctica itself.

4.2 Transition from the apartheid government

There was some concern that the change of government in South Africa in 1994 would bring with it a change in attitude to its Antarctic involvement.

> "By 1993, in the run up to the first democratic election in South Africa, some scientists and policy-makers expressed a new uncertainty about the identity and meaning of the continent. Some even wondered whether a scientific programme on Antarctica should be continued in a 'new South Africa.'"[610]

This uncertainly arose even earlier, however. As Van der Watt lucidly sets out, by 1990, prompted in part by the significant costs of establishing a new station to replace SANAE III, questions were being asked about whether continuing the South African Antarctic programme was warranted.[611] An internal government memorandum[612] concluded that, on the basis of science alone, it was not, but that as only science and the continuation of the South African Antarctic programme could maintain a South African Antarctic presence both on the continent and in the treaty system, it was indeed necessary if such a presence was desirable. As Van der Watt notes, the memo went on to set out precisely why science was useful:

> "Science … was useful for three reasons: to maintain South Africa's status within the ATS, because of the direct benefits of international scientific collaboration and because the Marion Island and Gough Island stations needed to be maintained as meteorological stations regardless of the scientific programmes."[613]

Van der Watt describes how the memo makes out a case "with strictly utilitarian arguments"[614] for the usefulness of Antarctic and Southern Ocean science in practical applications relevant to the South African mainland and informatively cites some of the examples provided in the memo.[615] The arguments were successful and funding was approved for the construction of SANAE IV in 1992. This coincided with a statement made in a 1992 working paper by the ANC that:

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[610] Van der Watt op cit note 414 pg. 195.
[611] Ibid pg. 198.
[612] "Departement van Nasionale Opvoeding: Kabinetsmemorandum no. 38 van 1990," 9 October 1990, DIRCO BTS 102/2/7 volume 33.
[613] Van der Watt op cit note 414 pg. 198. Sidiropoulos & Wheeler op cit note 452 pg. 32 attribute a virtually identical statement to: ANC, 'Foreign policy perspective in a democratic South Africa', December 1994, http://www. Anc.org.za/show.php?id=230.
[614] Van der Watt op cit note 414 pg. 198.
[615] Ibid pgs. 198-199.

> "As good environmental citizens, we will strongly support the comprehensive protection of Antarctica. We urge the development of instruments which will enable the continent to become a 'Nature Reserve - Land of Science'."[616]

This seemed to convey the promise of an ongoing commitment to Antarctica,[617] although not expressly the South African Antarctic programme. Nevertheless, concerns still continued to exist as both "scientists and civil servants involved with the Antarctic programme worried whether the new government would have the political will to continue with the Antarctic programme."[618] Ironically, this was precisely the point at which the UNGA unanimously resolved to remove the call for South Africa's expulsion from the ATS, from the Question of Antarctica resolution.[619]

The change of government in 1994 did indeed bring about a significant change in government's attitude to South Africa's Antarctic commitments, but in an enlightened way, that was surprising to some. The transition to a democracy coincided with several significant global events that directly impacted upon Antarctica – specifically South Africa's interests in Antarctica. These included the collapse of the Soviet Union, which removed the overt apartheid myopic political fearmongering of a Soviet naval threat to South African security and to its sub-Antarctic interests as a justification for maintaining an Antarctic presence; the collapse of CRAMRA and the replacement thereof by the Madrid Protocol (a series of events that spanned the period from 1989 with the collapse of CRAMRA, to 1998 with the implementation of the Protocol), which removed the exploitation of Antarctic minerals from the political table; the growing strength of the international environmental movement, which placed the protection and preservation of Antarctica firmly on the table (bolstered by, for example, the developing science around the threat of global warming and the rapidly expanding Antarctic ozone hole); and, of course, South Africa's reacceptance into the international community, which placed ancillary benefits, such as Antarctic tourism[620] and, as Van der Watt notes, the expansion of Cape Town's role as an Antarctic gateway[621]

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[616] Mills G, (ed.) From Pariah to Participant: South Africa's Evolving Foreign Relations 1990-1994. Johannesburg: South African Institute of International Affairs, 1994, pg. 235.
[617] See, generally, Dodds op cit note 307 pgs. 25-42, and Dodds op cit note 331.
[618] Van der Watt op cit note 414 pg. 199.
[619] "The release of Nelson Mandela in 1990 had an important impact on many aspects of domestic and international life including the international politics of Antarctica." Dodds op cit note 331 pg. 74.
[620] "More recently Cape Town has been marketed as an 'air bridge' to Antarctica, with a resulting increase in tourist packages." Sidiropoulos & Wheeler op cit note 452 pg. 31. See also Boekstein M, "Cape Town as Africa's Gateway for Tourism to Antarctica – Development Potential and Need for Regulation" *African Journal of Hospitality, Tourism and Leisure*, 2014 3 (2).
[621] For example, five Antarctic gateway cities have been identified by Western Sydney University's Institute for Culture and Society. "These five cities; Cape Town, Christchurch, Hobart, Punta Arenas, and Ushuaia have complex histories of engagement with the Antarctic. Located in zones with intense interconnectivity to the Antarctic, they are formally recognised international gateways through which most travel to the region flows. All significant engagement with the Southern Polar Region is coordinated through them." https://www.sanap.ac.za/sunday-science-rethinking-the-antarctic-gateways. November 2020. See also Roldan G, Fit for the Ice: Analysing the infrastructure in Antarctic gateway cities, Dissertation, Postgraduate Certificate in Antarctic Studies, University of Canterbury, Gateway Antarctica, 2011. http://hdl.handle.net/10092/14177. January 2021. The DET's draft Antarctic and Southern Ocean Strategy (ASOS) document published for public comment in July 2020, which will be discussed later in this chapter, notes that currently ten other countries regularly utilise Cape Town as the gateway city for their Antarctic expeditions. Department of Environmental

within reach.[622] In addition, South Africa is also a member of the Dronning Maud Land Air Network Project (DROMLAN) which is an association formed by the eleven countries[623] operating bases in Dronning Maud Land in Antarctica. It is designed to co-ordinate logistic services both to increase efficiency, reduce costs and to provide a safer and more far-reaching service than would otherwise be possible through uncoordinated individual action.[624] Cape Town International Airport provides the departure base for all DROMLAN flights to Antarctica, which are usually to Troll Airfield, and a South African company, Antarctic Logistics International (ACLI), is responsible for organising and coordinating all flights.[625]

Within South Africa there had also been domestic developments affecting the South African Antarctic programme, which rendered the time ripe for change and significant improvement. The SANAP had never been blessed with any unitary, cohesive or overarching system of management that would protect and develop its interests. This was especially the case as South Africa became more and more deeply mired in apartheid. Initially sub-Antarctic and consequently Antarctic activities were primarily considered utilitarian – a weather station on Tristan da Cunha in 1942, a weather station on Marion Island in 1948, a weather station on Gough Island (replacing the one on Tristan) in 1956 and then a weather station on the Antarctic continent in 1960. All sub-Antarctic and Antarctic activities therefore fell under the purview of the Weather Bureau within the Department of Transport. This is not at all to say that science was neither recognised nor supported, indeed the contrary was true, but it was the Department of Transport that played the coordinating role. Other government departments were also involved. The Department of Public Works was responsible for infrastructure, the Navy, initially, provided the actual 'transport', and the Department of External Affairs (later Foreign Affairs) managed the political aspects of South Africa' s sub-Antarctic and Antarctic involvement. Science itself was funded and managed by the CSIR[626] which was not a governmental department but a

Affairs, (DEA) Draft Antarctica and Southern Ocean Strategy (Draft ASOS) 20 February 2020 pg. 16. These are the UK, Germany, Russia, Belgium, The Netherlands, Norway, Sweden, India, Japan and Finland. The final ASOS, March 2021, retains the same references.

[622] Van der Watt op cit note 414 pg. 200. See also Sidiropoulos & Wheeler op cit note 452 pg. 31 "More recently, Cape Town has served as the starting point for flights to bases, especially those in Dronning Maud Land, transporting over-wintering teams, inspection visits and the replenishment of stores. The main destination is Novo Airport near the Russian Novolazarevskaya research station." There are also flights from Cape Town to Troll airfield near Norway's Troll station.

[623] Belgium, Finland, Germany, India, Japan, the Netherlands, Norway, Russia, South Africa, Sweden and the United Kingdom.

[624] "The Dronning Maud Land Air Network (DROMLAN), [is] a logistical partnership to transport equipment and personnel to various stations in Dronning Maud Land, Antarctica." Wesche C, Steinhage D, & Nixdorf U, "Polar aircraft Polar5 and Polar6 operated by the Alfred Wegener Institute" Journal of large-scale research facilities, 2016 2 (A87) 1-7.

[625] Fromm T, Oberdieck C, Heitland T, & Köhler P, Expeditions to Antarctica: ANT-Land 2018/19 Neumayer Station III, Kohnen Station, Flight Operations and Field Campaigns, Berichte zur Polar- und Meeresforschung = Reports on Polar and Marine Research, 733, 1-143, Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung, Bremerhaven, 2019.

[626] "The Council for Scientific and Industrial Research, commonly known as the CSIR, is a world-class African research and development organisation established through an Act of Parliament in 1945. The CSIR undertakes directed, multidisciplinary research and technological innovation that contributes to the improved quality of life

government-owned scientific research council. This resulted in a somewhat unorganised and fragmented infrastructure which the scientists themselves found less than satisfactory.[627] This position moved and shifted over time, but never in a way that prioritised science. Indeed, as apartheid deepened, so did apartheid state paranoia, issues of control, and petty bureaucracy.[628] As discussed previously, a multiplicity of factors, including, inter alia, the negotiation and implementation of CCAMLR, the spotlight on mineral resource exploitation (and the negotiation of CRAMRA), the growing international environmental lobby and the UN 'Question of Antarctica',[629] all contributed to a global shift in attitudes to Antarctica, which was also reflected in South Africa. In 1985, the same year that South African expulsion was added to the Question of Antarctica, the management and coordination of SANAP was moved from the Department of Transport to the Department of Environmental Affairs (DEA).[630] While seemingly in step with changes in the international emphasis on environmental protection of Antarctica, this was possibly also a defensive attempted pseudo-depoliticization of South Africa's Antarctic interests in the face of growing international scrutiny. This was not as much of a positive step as might have been initially thought as the political bureaucracy within the DEA strengthened political control and clashed with the scientists in the CSIR.[631] In 1989 the DEA terminated the relationship with the CSIR and took direct control over the funding of scientific research. As Van der Watt points out, even the Department of Foreign Affairs, which managed the increasingly delicate political aspect of South Africa's Antarctic involvement, was concerned that this move might create the negative impression that there was now direct governmental control over, and thus interference in, the scientific budget and thus South African Antarctic science.[632] Ironically, the Department of Foreign Affairs was bluntly clear in its own view that Antarctic science itself was a political pawn, as Van der Watt, once again, uncovers from her excellent analysis of internal correspondence of the time.[633]

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of South Africans. The CSIR's shareholder is the South African Parliament, held in proxy by the Minister of Science and Technology." https://www.csir.co.za/about-us. November 2020.

[627] Neethling DC, "A Plea for the Establishment of a South African Antarctic Institute" April 1966, DIRCO BTS 102/2/7 (21). See also "Since 1960, there had been suggestions, mostly by scientists, of centralising South Africa's Antarctic and sub-Antarctic activities in one unit similar to the CSIR that would coordinate everything from science to logistics, but this never came to fruition as the departments involved could not come to an agreement with regards to budget responsibilities." Van der Watt op cit note 414 pg. 160.

[628] Van der Watt provides a fascinating insight into just how narrow minded and self-important petty apartheid bureaucrats were, describing the tendency of "white civil servants … to act like gods." Van der Watt op cit note 414 pg. 230.

[629] Other factors included the discovery of the seriousness and extent of the ozone hole over Antarctica, major environmental shipping disasters like the Exxon Valdez disaster in Alaska and the ARA Bahía Paraíso disaster in Antarctica, which highlighted the fragility and vulnerability of the polar climates. The ARA Bahia Paraiso was an Argentine naval vessel which sank, causing a very large (approximately 640 000 litre) oil spill.

[630] This department enjoyed a variety of names at different periods, for example it was known as the Department of Environmental Affairs and Water Affairs at the time of transfer of SANAP, (though Van der Watt op cit note 414 pg. 188, refers to it, at this juncture, as the Department of Environmental Affairs and Fisheries), so for the sake of continuity and simplicity it will simply be referred to as the Department of Environmental Affairs (DEA).

[631] Van der Watt op cit note 414 pg. 161.

[632] "The argument went that, if run by a government department as opposed to a scientific institution, claims to scientific universalism that helped to keep South Africa in the Treaty would be harder to make." Van der Watt op cit note 414 pg. 162.

[633] Ibid.

> "It must be kept in mind that South Africa's research/scientific activities in Antarctica are supplementary to a political goal. As member of the Antarctic Treaty South Africa must assert its presence and amongst other things it is required of members to make a research contribution. Research is a means to a political end and not the primary reason for South Africa's presence there."[634]

A pawn, it seems, on an international field not to be jeopardised by intra-departmental and inter-departmental domestic chess games. This then was the situation inherited by the new democratic government.[635] In 1995, the DEA, now renamed the DEAT[636] under the new government, re-evaluated South Africa's Antarctic position against the backdrop, as mentioned above, of a significantly different political landscape both national (the demise of apartheid) and international (the collapse of CRAMRA, the creation of the Madrid Protocol, the gradual demise of the Question of Antarctica, among other factors). The DEAT produced a memorandum[637] motivating for the continuation of the SANAP. Van Der Watt summarises the memorandum thus:

> "The Department of Environmental Affairs consulted leading scientists before drawing up the memorandum and scientists were also closely involved with formulating the strategy. Unlike the memoranda that were drawn up during the apartheid years, this memorandum referred to the value of Antarctic research for the people of South Africa rather than just South Africa as an abstraction. It made explicit mention of the post-apartheid Reconstruction and Development Programme (RDP) and the contribution that SANAP can make 'through high quality scientific endeavour' to 'development of technology' and 'training of skilled manpower and building capacity.'"[638]

The significance of the memorandum cannot be understated. Not only does it reflect a new 'science first, politics second' attitude, arguably significantly less paranoid and, on both a domestic and international level, significantly more mature than that exhibited in preceding years, but it also is evidence of a significantly different attitude to the internal mechanisms in terms of which departmental policy was formulated. Scientists,[639] not bureaucrats, were

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[634] Gert Kotze, Minister of Environmental Affairs and Water Affairs to Dr G van N Viljoen Minister of State Development and National Education, "WNNR Betrokkenheid by Suid-Afrikaanse Navorsing op Antarktika en Eilande," 28 August 1989, DIRCO BTS 102/2/7 (32).

[635] There were, at times, puerile attempts by some officials to undermine the transition and new government's tenure, for example by deliberately commissioning the infrastructure of the SANAE IV base in the colours of the old South African flag, fully cognisant of the total inappropriateness of the move and of the offence that this would cause, to say nothing of the wasted costs of rectifying this racially insensitive move.

[636] Subsequently renamed the Department of Environmental Affairs and Tourism.

[637] Department of Environmental Affairs and Tourism. Cabinet Memorandum: "Continuation of the South African National Antarctic Programme, (SANAP)," Revision 5, 30 May 1995, DIRCO BTS 102/2/7 (37).

[638] Van der Watt op cit note 414 pg. 164.

[639] The late UKZN physics Professor, Dave Walker, was one of these scientists, described by Van der Watt as "closely involved". Van der Watt op cit note 414 pg. 164. Prof Walker conducted significant Antarctic scientific research as "co-initiator of and a principal investigator from 1993 to 2002 on the international SHARE (Southern Hemisphere Auroral Radar Experiment) project that involved dual radars at the South African Antarctic base, SANAE, and the British base (Halley Bay)." (Obituary 27 September 2018, https://bereamail.co.za/140928/ukzn-mourns-science-professor/. November 2020.) Dodds describes this as one

the formulators of the policy, wherein lay its effectiveness. And it was indeed effective, the South African government committing itself to the continuation of the Antarctic programme, with the opening of the new SANAE IV station following shortly thereafter in 1997.

4.3 Current status/involvement

The post-apartheid changes were, however, not yet complete and in 2003 the control and management of the SANAP were moved yet again, from the DEAT to the Department of Science and Technology (DST). This placed Antarctic science under direct scientific control[640] and although, by and large, a positive step and a significant improvement, it seemed that SANAP had weathered the transitional storm and appeared set for a much improved future. SANAP notes that "South Africa's funding of research connected to the Antarctic received a 30% boost in 2004/2005 and Department of Environmental Affairs … has committed itself to increasing its annual funding."[641] It was, however, not yet an entirely satisfactory position as the DEAT "retained responsibility for all logistics and infrastructure."[642] This did, and still does, create scope for a disjuncture in resource management and planning. This was specifically mentioned in a 2007 external review of SANAP[643] which stated:

> "Governance of the programme needs to be more coherent and transparent. … The present management structure for SANAP across two departments is confusing and should be simplified and made more effective by establishing SANAP as a National Facility lead by a senior scientist and reporting through a single department."[644]

This blunt and simple instruction was ignored completely and Sidiropoulos and Wheeler note, writing as recently as 2016,

> "However, the division of responsibilities between the DEA and DST, with the DEA being responsible for the costs of the logistics trips to the sub-Antarctic islands and

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of a few "important international collaborative projects." Dodds op cit note 307 pg. 39. Prof Walker served as Vice-Chairman of SCAR (Address List of SCAR Executive Committee, Honorary Members, National Committees, Delegates and Chief Officers, Polar Record 1998 34 (191), 374-378, Chairman of the Solar Terrestrial and Astrophysical Research Working Group of SCAR, and also, in latter years on the SA National Space Agency.

[640] "The National Research Foundation (NRF) became the agency responsible for grant making on behalf of the Department of Science and Innovation (DSI, previously known as DST)." https://www.sanap.ac.za/about/#history. November 2020. As Van der Watt notes "It was only post-apartheid South Africa, when the ANC-led government ensured that they would continue with the Antarctic programme, that the science became funded by a bone (sic) fide research body again." Van der Watt op cit note 414 pg. 162.

[641] https://www.sanap.ac.za/about/#history. November 2020.

[642] https://www.sanap.ac.za/about/#history. November 2020. At that stage the DEAT had been renamed (again) to the Department of Environmental Affairs, but it is now known as the Department of Environment, Fisheries and Forestry (DEFF).

[643] Walton D, Thiede J, Manley L, & Hoffmann A, Review of The South African National Antarctic Programme, (SANAP) 2007.

[644] Ibid pg. 4.

> Antarctica and the DST for scientific research, has created unintended consequences. Scientists have complained of limited access to the vessel. They also argue that the vessel spends too much time in port focusing primarily on providing logistical support to Gough Island, Marion Island and Antarctica, to the detriment of scientific research. It spends some 154 days (or about five months) a year on these logistical voyages, but has no dedicated planned research time between the voyages. ... However, the DST has no additional budget for separate voyages for scientific research. The scientific budget is allocated to research but there is no specific allocation for the costs of the voyage."[645]

An additional level of complexity is that a third government department, the Department of International Relations and Cooperation's (DIRCO), is also involved in that it represents South Africa at the ATCMs.[646] These are not the only departments involved, however, as

> "The Department of Public Works (DPW) ... has always been tasked with constructing and maintaining SANAE bases and other structures in Antarctica [and] the South African Navy and air force provide the DEA with transport support to and from the Prince Edward Islands, Gough Island, Tristan da Cunha and the Antarctic."[647]

However, notwithstanding these issues, the SANAP continues to enjoy significant support. In 2005 both Departments (the DST and DEA) agreed to significantly expand the areas of potential research with the result that "[r]esearchers in the social sciences (politics, international relations, and sociologists), humanities (literary studies, visual arts and cultural studies) and law (Law of the Sea) as well as engineering can now participate in SANAP."[648] In addition, in that sphere where a true gauge of commitment can be most accurately measured, namely budgetary allocations, the trend is one of considerable growth, as is demonstrated from the table below compiled by Sidiropoulos & Wheeler.

TABLE 3 THE DEA: OCEANS CONSERVATION SUB-PROGRAMME, 2011/12 TO 2016/17 (ZAR M)

2011/12 [a]	2012/13[a]	2013/14[a]	2014/15[b]	2015/16[c]	2016/17[c]
757.4	351.6	182.5	207.8	206.7	219.6

a Audited outcomes
b Adjusted appropriation
c Medium-term expenditure estimate

[645] Sidiropoulos & Wheeler op cit note 452 pg. 37. The authors refer to several sources including, Treasure AM, Moloney CL, Bester MN, McQuaid CD, Findlay KP, *et al*, "South African research in the Southern Ocean: New opportunities but serious challenges" South African Journal of Science 2013 109 (3/4), Art. #a009, pg. 2/4. It should be noted that the 2007 Review of the SANAP recommended that South Africa's new research vessel (the SA Agulhas II was at that stage under order and had not yet been commissioned) "achieve an annual deployment of 300-320 days/y." Walton *et al* op cit note 642 pg. 7.
[646] Sidiropoulos & Wheeler op cit note 452 pg. 33.
[647] Ibid pg. 36.
[648] https://www.sanap.ac.za/about/#history. November 2020. Sidiropoulos & Wheeler provide some examples of such research: "Antarctica as a window into geo-space, climate variability, biodiversity, responses to earth system variability, engineering a sustainable presence in Antarctica, and the history, sociology and politics of Antarctic research and exploration." Sidiropoulos & Wheeler op cit note 452 pgs. 34–35.

Figure 7.1 South African Antarctic budgetary allocation[649]

In a similar vein, funding of SANAP scientific research by the National Research Foundation (NRF)[650] has, generally speaking, increased year on year since the 2004 commitment thereto.

TABLE 2 NRF-FUNDED RESEARCH: SANAP 2004–15

year	grants made (Zar*)	% increase/decrease
2004	3,767,324	–
2005	6,213,943	65%
2006	6,991,782	13%
2007	10,056,938	44%
2008	14,390,211	43%
2009	16,679,351	16%
2010	17,964,624	8%
2011	12,827,400	-29%
2012	14,997,747	17%
2013	9,596,701	-36%
2014	13,908,736	45%
2015	21,916,394	58%

* ZAR = Currency code for the South African rand.

Figure 7.2 South African NRF research funding[651]

The commitment of funding to the completion of the construction of SANAE IV, which although commenced prior to 1994, had stalled, represented the new government's first significant capital infrastructural investment in Antarctica. Other significant capital infrastructural investments evidencing an ongoing financial commitment to SANAP have since followed. These include the investment in a new state of the art base on Marion Island. This was initiated in 2003 and construction took place over a period of 10 years at an

[649] Sidiropoulos & Wheeler op cit note 452 pg. 38. The source of the information is attributed to: National Treasury, 2015 Estimates of National Expenditure, Pretoria, 2015, pg. 494. The authors note that the seemingly unusually high allocations "for 2011/12 and 2012/13 are due to the purchase of the Miriam Makeba polar research vessel. The total project cost was ZAR 1,429 billion ($89.3 million), of which ZAR 131.4 million ($8.2 million) was paid in 2009/10, ZAR 467.3 million ($29.2 million) in 2010/11, ZAR 643 million ($40.1 million) in 2011/12, and ZAR 188 million ($11.8 million) the following year." Sidiropoulos & Wheeler op cit note 452 pg. 38.

[650] The NRF is an independent statutory body established through the National Research Foundation Act … [which incorporates] the functions of the research funding agencies that were previously servicing various sections of the research community, namely the former Centre for Science Development (CSD) of the Human Sciences Research Council (HSRC) and the former Foundation for Research Development (FRD) that included several National Research Facilities." https://www.nrf.ac.za/about-nrf. November 2020. As mentioned previously, SANAP funding had previously been administered through the CSIR subsidiary the Foundation for Research Development (FRD), until it had been removed by the apartheid government department and placed under direct political control in 1989.

[651] "Source: National Research Foundation, email communication, January 2016." Sidiropoulos & Wheeler op cit note 452 pg. 35.

estimated cost of ZAR 200 million.[652] The base was officially opened on the 18th March 2011. An even more significant statement of commitment was the considerable investment, in the sum of ZAR 1,429 billion,[653] in the replacement of the venerable SA Agulhas with the SA Agulhas II (Miriam Makeba) which came to fruition the following year, 2012. The ageing SA Agulhas, in addition to providing a base for oceanographic research in the Southern Ocean, had provided "logistical support to research bases in Antarctica, Marion and Gough Islands including rescue missions from 1977 to 2012"[654] - a period of 35 years. The SA Agulhas II was launched in July 2011,[655] completed in early 2012 and arrived in Cape Town in May of the same year. As the Department of Environmental Affairs noted, "For South Africa, this represented a major investment."[656]

4.4 The South African National Antarctic Programme (SANAP)

The South African National Antarctic Programme, (SANAP)[657] is the umbrella body through which all Antarctic, sub-Antarctic and Southern Ocean research (and ancillary activity) is managed. The sub-Antarctic component includes, of course, the PEIs as well as South Africa's involvement on Gough Island, although, strictly speaking, Gough is not sub-Antarctic. Nevertheless, it is sufficiently proximate, shares many similar characteristics and is ecologically and ecosystemically an integral part of the sub-Antarctic. SANAP manages three major physical installations which include "a meteorological station on Gough Island (a British protectorate), a meteorological and biological research station on Marion Island and SANAE IV on Antarctica."[658] As previously mentioned, SANAP is located within the Department of Science and Technology[659] although the DEAT (currently known as the Department of Forestry, Fisheries and the Environment) is responsible for management and logistics. More importantly, however, the actual scientific component of SANAP is managed by scientists not politicians. As Dodds notes,

> "The research component of SANAP is carried out under the auspices of SACAR which is composed of representatives from government departments, research institutions and universities. This Committee acts as an advisory body to the inter-departmental

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[652] https://www.iol.co.za/capeargus/new-marion-island-base-opens-1043782. November 2020.
[653] National Treasury, 'Estimates of National Expenditure 2013', http://www.treasury.gov.za/documents/national%20budget/2013/ene/FullENE.pdf. Sidiropoulos & Wheeler op cit note 452 pg. 38.
[654] https://www.environment.gov.za/sites/default/files/docs/publications/SA_agulhas.pdf. November 2020.
[655] On the 21 July 2011, in Rauma, Finland. https://www.environment.gov.za/sites/default/files/docs/publications/SA_agulhas.pdf. November 2020. For detailed and accurate nautical data see S. A. Agulhas (30528)". DNV GL Vessel Register. Det Norske Veritas. https://vesselregister.dnvgl.com/VesselRegister/vesseldetails.html?vesselid=30528. November 2020.
[656] https://www.environment.gov.za/sites/default/files/docs/publications/SA_agulhas.pdf. November 2020.
[657] https://www.sanap.ac.za/. November 2020.
[658] Sidiropoulos & Wheeler op cit note 452 pg. 34.
[659] "Following the reconfiguration of government departments in June 2019, the Department of Science and Technology (DST) was renamed the Department of Science and Innovation (DSI)." https://www.gov.za/about-sa/science-technology. November 2020. Interestingly, however, as at November 2020 the official DSI website carries no references to SANAP whatsoever. https://www.dst.gov.za/index.php/component/search/?searchword=SANAP&ordering=newest&searchphrase=all&limit=20. November 2020.

> Antarctic Management Committee which is responsible for the final decisions relating to the SANAP."[660]

As a consequence of an approach to the South African Treasury for funding to replace the ageing SA Agulhas, Treasury requested an external review of SANAP. SANAP thus underwent a comprehensive external[661] review in 2007.[662] While this review provides a valuable snapshot of the state of play in SANAP midway through the present era, many of the observations, comments and criticisms remain valid today. To be fair, however, a number of the criticisms are not directed at SANAP per se, but rather at the deficiencies in the support structures that SANAP enjoys or, more accurately, doesn't enjoy. Furthermore, a significant number of the recommendations made to address these shortcomings have been acted upon,[663] thereby strengthening the SANAP.

The Report referred to South Africa's established track record in Antarctica and noted that South Africa

> "…has made and is making substantial contributions to our understanding of the continent and its surrounding seas and has considerable investments in infrastructure to support this research."

In assessing this contribution, the Report states that

> "An assessment of the health and standing of its present Antarctic science community shows that its overall output is good and that the best scientists are on a par with those from leading Antarctic countries in Europe and North America."[664]

The Report goes into considerable detail analysing the evidence it considered and assessed to arrive at these conclusions which indicate that, certainly at this point, the SANAP was a healthy and valuable institution. However, the Report also went on to detail certain shortcomings which the panel felt undermined the SANAP, particularly with regard to infrastructure and governance. With regard to the former it recommends

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[660] Dodds op cit note 305 pg. 404.
[661] The review panel consisted of 4 experts: Professor David Walton, British Antarctic Survey, United Kingdom, Professor Jorn Thiede, Alfred Wegener Institute, Germany, Judge Albert Hoffmann, International Tribunal for the Law of the Sea and Mr. Leslie Manley, South African Department of Foreign Affairs.
[662] Walton *et al* op cit note 642 pg. 4. It should be noted that SANAP had previously been reviewed in 2000. Some of the positive findings of the 2000 review, summarised in the 2007 review, included that "Research was internationally acceptable, Science community was enthusiastic, Some researchers were ranked amongst the best in their fields and Antarctica provided an excellent training for young scientists in areas and disciplines of direct relevance to SA economic future." (pg. 18) However, the review also highlighted several problematic issues which included that "Logistics dominated SANAP to the detriment of science and … a lack of coherent and comprehensive Antarctic national policy and strategy." (pg. 18) Recommendations made in 2000 included, significantly, *inter alia*, "3. That D:A&I (SANAP) be moved out of DEAT, made a statutory body with its own management Board and sited in Cape Town." (pg. 18)
[663] For example, the Report recommends the replacement of the aging SA Agulhas, (pg. 7) which has since taken place with the commissioning of the SA Agulhas II and the declaration of a Marine Protected Area around the Prince Edward Islands (pg. 6) which has also since been done. Walton et al op cit note 642.
[664] Ibid pg. 4.

> "…establishing the SANAP Antarctic Research and Logistics Centre as a National Facility. It should report through one Minister, be located in Cape Town, to serve as the core institution to safeguard the continued development of the scientific perspectives of South African research in Antarctica and the adjacent ocean basins, to provide the environmental management of South African activities in the Antarctic Treaty area as well as logistic support for SANAP and other research projects.[665]

With regard to the latter it states very clearly that it

> "…recommends that a new management structure is organised to bring all elements of South African Antarctic activities into a single unified system, improving decision making and information flow as well as allowing for the representation of all interests in a structured framework."[666]

Notwithstanding this recommendation, which builds upon a similar recommendation made in the 2000 review of SANAP, namely that SANAP "be moved out of DEAT, [and] made a statutory body with its own management Board,"[667] at the time of writing, this has yet to be acted upon.[668]

4.5 South Africa's Present Antarctic Policy

Since the transition to a democratic representative government, and once the question of South Africa's ongoing Antarctic involvement had been settled, discussed above, SA has been steadily developing its Antarctic policies. As mentioned in the introduction to this chapter, not all developments represented a sea change – some were continuations of policy directions already decided. However, along with the change of government, certainly, there was a subtle change in policy direction too.

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[665] Ibid pgs. 9 & 38.
[666] Ibid pgs. 9 & 42. "It recommended that [this] body be called the South African Antarctic Policy and Research Committee" (pg. 41) and that it include the following subcommittees; (i) a science subcommittee (including SCAR) chaired by the SCAR delegate, (ii) a management and logistics subcommittee (including COMNAP) chaired by SANAP, (iii) an ATCM subcommittee chaired by the Department of Foreign Affairs and (iv) a CCAMLR subcommittee chaired by the Department of Environmental Affairs. Pgs. 9-10 & 41.
[667] Ibid pg. 17, referring to the 2000 review.
[668] However, subsequent to writing, in February 2021 the Department of Science and Innovation proposed the establishment of the South African Polar Research Infrastructure (SAPRI). Department of Science and Innovation, South African Research Infrastructure Roadmap Research Infrastructure (RI) proposal, South African Polar Research Infrastructure (SAPRI), February 2021. In September 2021 SAPRI was able to state: "The SAPRI team is pleased to inform you that the contractual agreement for the starting of the SAPRI implementation phase is being finalized between the Department of Science and Innovation (DSI) and National Research Foundation of South Africa (NRF)." SANAP, https://www.sanap.ac.za/south-african-polar-research-infrastructure-sapri-launch-of-the-preparatory-phase. February 2025. For more see SAPRI, https://www.sapri.ac.za/. February 2025.

4.5.1 PEI Involvement

The PEIs are territorially South African and thus the same pressures and uncertainties that faced South Africa's Antarctic involvement were not as prevalent (and indeed others dominated during the apartheid era[669]), in the sense that a failure to commit to and develop the PEI programme would not have had implications for SA's claim to the territory. However, given the interconnectedness of the PEIs to the Southern Ocean and Antarctica,[670] and the interconnected manner in which the South African programmes were organised, the PEIs are a litmus test for South African Antarctic commitment. A drop-off in funding support and a lack of political will to maintain and develop the PEIs would almost certainly herald a diminution in interest in Antarctica. Indeed, SA's scientific programme not only played a significant role in SA becoming part of the ATS, but the research and science emanating from the PEIs played (and still plays) an important role in South Africa maintaining its standing within the ATS.[671] In this regard the PEIs are actually a good barometer of SA policy development in the Southern Ocean and Antarctica regions. The commitment to funding and infrastructure has already been discussed. With regard to policy development, and especially what this says about the official attitude to the PEIs, the following developments provide a clear picture. With regard to the environmental management of the Islands, initial human impact was anything but limited. The well-documented introduction of domestic cats, themselves introduced to combat the infestation of earlier introduced rats and mice,[672] provides a relatively accessible low water mark of environmental management. Although arguable that the degree of attention that today is focused on alien invasive species and the damage they cause did not exist at the time that both introductions occurred, it must be noted that as early as 1952, in other words, within a few years of South Africa's annexure, scientists were already observing the

[669] Some of the predominant reasons for SA's interest in the Prince Edward Islands were geopolitical (to prevent Russia obtaining a nearby, threatening, foothold), possibly military (rumours of missile testing were rife and military interest in building a landing strip on Marion Island was thinly disguised as concern for ease of medical evacuations) and resource protection (to prevent foreign fishing). See Dodds op cit note 331 and Dodds op cit note 307.

[670] "This Island group, along with other Sub-Antarctic Islands were, however, included under the rubric of SCAR whose area of interest roughly stretched to the sub-Antarctic convergence." Van der Watt op cit note 414 pg. 181.

[671] Professor Steven Chown, the first chairman of the Prince Edward Islands management committee, and now chairman of SCAR, speaking about the significance of the new Marion Island base in 2011 on the occasion of its opening, noted "Strategically, it's very important for us to be there (in the treaty system), and we have to be involved if we want to remain a member … and it's also important to do world-class science, because your status in the (geopolitical) system depends on the quality of your work." https://www.iol.co.za/capeargus/new-marion-island-base-opens-1043782. November 2020.

[672] "Mice were accidentally introduced to Marion Island during the sealing era sometime before 1818 and were the sole introduced mammal until 1948 when five domestic cats were introduced to control mice at the newly-established weather station." Preston GR, Dilley BJ, Cooper J, Beaumont J, Chauke LF, Chown SL, *et al*, "South Africa works towards eradicating introduced house mice from sub-Antarctic Marion Island: the largest island yet attempted for mice" in Veitch CR, Clout MN, Martin AR, Russell JC, & West CJ, (eds.) Island invasives: scaling up to meet the challenge, pgs. 40–46. Occasional Paper SSC no. 62. Gland, Switzerland: IUCN, 2019, pg. 41, referring to Watkins BP, & Cooper J, "Introduction, present status and control of alien species at the Prince Edward Islands, sub-Antarctic" *South African Journal of Antarctic Research* 1986, 16, 86–94.

negative impact[673] of these introductions and were soon warning of the dangers of introduced species.[674] In the late 1970s a programme was initiated to eliminate the cats of Marion Island through the introduction of a virus. This was partially (and controversially) successful, and was followed in the early to mid-1980s with a cat hunting and eradication programme which drew even more criticism. Nevertheless, the island is now cat free.[675] The willingness to engage and the effort put into the eradication of the feral felines are indicative of a shift in attitude to the PEIs and their environment. However, this also coincided with the controversial proposal to build an aircraft landing strip on Marion Island. Already discussed elsewhere and eventually abandoned, it clearly and starkly illuminated the government's contradictory approach to the Islands' management.[676] The incident, and especially the environmental impact assessment that was conducted as the controversy raged, were tremendously influential. The contradiction had to be resolved and, in this instance, partially as a result of the EIA and the significance it attributed to the preservation of the Islands' unique ecosystem, policy swung towards environmental protection.[677] Of course, other factors were also extremely influential. South Africa had just, in 1991, signed the Madrid Protocol which, while not yet then applicable to the Islands, was a step towards placing environmental protection of Antarctica at the foreground of Antarctic policy. A Code of Conduct[678] was drawn up to regulate activities on the Islands. Shortly thereafter, in 1989, section 41(1) of the Environment Conservation Act 73 of 1989 (ECA) provided that the ECA would "also apply in respect of the Prince Edward Islands". Not long after the new government came into power, using section 18 of the ECA, it took the significant step of declaring the PEIs to be a Special Nature Reserve. Dodds notes that this was not the only important development of 1995,

> "First, the South African government ratified the Madrid Protocol in July 1995. Second, the Minister of Environmental Affairs declared the Prince Edward Islands (PEI) a Special Nature Reserve in November 1995."[679]

[673] "Rand was the biologist on the Eighth South African Expedition to Marion Island over 1951/52 and noted how 'a few domestic cats have gone feral and prey on the smaller petrels or mice that are widespread over the coastal plain.'" Preston *et al* op cit note 671 pg. 41, referring to Rand RW, "Notes on the birds of Marion Island" *Ibis* 1954 96, pg. 178.
[674] "Rand … delineated the potential impact of alien plants and animals on the island, clearly stating that experience on other islands has shown that 'when exotic species are introduced, illness occurs and affects the endemic population adversely.'" Van der Watt op cit note 414 pg. 178 quoting Rand RW, "Marion Island: Report from the biologist of the Government Guano Islands," 30 July 1952, ALP, Private Collections.
[675] The last cat was eliminated in 1991. See Bester MN, Bloomer JP, Van Aarde RJ, Erasmus BH, Van Rensburg PJJ, Skinner JD, Powell PG & Naude TW, "A review of the successful eradication of feral cats from sub-Antarctic Marion Island, South Indian Ocean," *South African Journal of Wildlife Research*, 2002 32. This has meant, of course, that the mice, unpredated upon, have become even more problematic and are the subject of an eradication programme of their own. For a detailed account of the Marion Island cat saga see Van der Watt op cit note 414 pgs. 178 ff.
[676] Eliminating cats and replacing them with aircraft…
[677] "The EIA had some ramifications for how the islands were managed, in that environmental protection was foregrounded above all else." Van der Watt op cit note 414 pg. 191.
[678] Cooper & Condy op cit note 589.
[679] Dodds op cit note 482 pg. 2.

The significance of the ratification of the Protocol will be discussed shortly, particularly with regard to South Africa's Antarctic involvement. Suffice it to say, at this stage, that it was also an important step with regard to the PEIs in that within a year, the Protocol would be adopted as part of South African domestic law and would thus be directly applicable to the PEIs. Even were this not the case, ratification, as Dodds implies above, certainly gives a strong indication of the direction that South African policy was heading internationally. This was echoed in the domestic PEI developments as well, as Dodds goes on to note:

> "A management committee, under the chairmanship of Professor Steven Chown, was appointed to monitor and evaluate the environmental impact of South African activities on the PEI. The committee is responsible for the implementation of the Prince Edward Islands Management Plan in 1997. The main thrust of the Management Plan (May 1995) is concerned with the environmental protection of the PEI and the coordination of scientific priorities for the region."[680]

The Development Plan, a comprehensive and evolving document, had its roots in the Code of Conduct that arose from the EIA that put a stop to the proposed construction of the Marion Island airstrip and shifted the focus on the PEIs onto a firmly scientific and environmental path. The PEI Management Plan was the work of a team of specialists, the Prince Edward Islands Management Plan Working Group,[681] and was published in 1996,[682] although it had been several years in preparation. It was thorough, comprehensive and a model of its kind,[683] and it represented a clear and positive policy shift. A management committee was established to implement the plan and monitor the impact of South African activities on the PEIs on the islands' environments.[684] One of South Africa's most prominent Antarctic and Southern Ocean scientists, Professor Steven Chown, who served as President of SCAR from 2016 to 2021,[685] was the first chairman of the PEIs management committee and is now a patron of the Mouse-Free Marion Project.[686] The importance of the Management Plan and its implementation cannot go unremarked upon. Dodds is of the opinion that the standards set by the PEIs Management Plan are higher than those contained in the Madrid Protocol itself, "The Management Plan for these remote islands contains provisions that are arguably more robust then the requirements established in the

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[680] Ibid.
[681] A list of contributors can be found on page 64 of the Plan and includes, inter alia, a formidable array of respected scientists, including Dr DGM Miller, Prof SL Chown, Prof R van Aarde, Dr MN Bester, Prof VR Smith, Prof JRE Lutjeharms and John Cooper whose relentless, wide ranging work in the Prince Edward Islands and in Antarctica is noteworthy, not least of which is his contribution to the Antarctic Legacy Project, and ongoing, expanding and fascinating repository of South Africa's Antarctic and Southern Ocean activities, available at https://blogs.sun.ac.za/antarcticlegacy/.
[682] DEAT op cit note 479.
[683] "The Plan constitutes a milestone in that it is attached to the first proclamation of a Special Nature Reserve under the Environment Conservation Act (Act No 73 of 1989)." https://blogs.sun.ac.za/antarcticlegacy/2020/01/21/resources-on-conservation-and-management-plans-for-prince-edward-islands/. November 2020.
[684] Dodds op cit note 482 pg. 2.
[685] SCAR. https://scar.org/scar-news/medal-30th-anniversary-winner. March 2024.
[686] Antarctic Legacy of South Africa. https://blogs.sun.ac.za/antarcticlegacy/2023/10/19/the-mouse-free-marion-project-appoints-professor-steven-chown-faa-as-one-of-its-international-patrons/. March 2024.

Annexes to the Protocol."[687] Given that the Protocol had not at this stage been incorporated into SA law, the Management Plan represented an enlightened and forward thinking approach to the conservation of the PEIs.

The next significant development was the passing of the Antarctic Treaties Act 60 of 1996. Although its primary focus was with regard to Antarctica, which will be discussed shortly, it nonetheless had an important effect on the PEIs. The Act is remarkably short, just 14 sections, but its effect is profound. Section 3(1) of the Act stipulates that "Subject to this Act, the treaties mentioned in Schedule I shall form part of the law of the Republic."[688] The treaties mentioned in Schedule I include:

> "I Antarctic Treaty
> II Protocol on Environmental Protection to the Antarctic Treaty
> III Convention for the Conservation of Antarctic Seals
> IV Convention on the Conservation of Antarctic Marine Living Resources"[689]

These treaties effectively became part of South African law. Section 11, titled "Application of Act to Prince Edward Islands," provides that

> "Where, by virtue of the definition of "Antarctica", a treaty is applicable to the Prince Edward Islands, referred to in section I of the Prince Edward Islands Act, 1948 (Act No. 43 of 1948), this Act shall also apply to those islands."[690]

Vrancken summarises the effect thus:

> "As far as it is concerned, the Antarctic Treaties Act 60 of 1996 (ATA), uses a more complex technique when it provides that "[w]here, by virtue of the definition of 'Antarctica', a treaty is applicable to the Prince Edward Islands . . ., [the ATA] shall also apply to those islands". The term "Antarctica" is defined as "the area to which a particular treaty applies", the term "treaty" being in turn defined as "an international agreement (howsoever described) relating to Antarctica which in terms of [the ATA] and the Constitution forms part of the law of South Africa and which is mentioned in Schedule 1 to the ATA".[691]

Roughly translated, this means that where a treaty (specifically those in Schedule I) is applicable to the PEIs, then that treaty is incorporated into South African law and becomes part of South Africa's domestic law, applicable to the PEIs. Although seemingly convoluted, in effect the AT, the Protocol, CCAS and CCMLAR are now effectively part of SA domestic

[687] Dodds op cit note 305 pg. 400. It must be borne in mind that the Protocol was, and is, not in and of itself, applicable to the Prince Edward Islands, which fall outside the Protocol area (which is the area south of 60 degrees South latitude). It has, subsequent to the publication of the Prince Edward Islands Management Plan, been incorporated into SA law, as discussed.
[688] Section 3(1) of the Antarctic Treaties Act 60 of 1996.
[689] Schedule I to the Antarctic Treaties Act 60 of 1996.
[690] Section 11 of the Antarctic Treaties Act 60 of 1996.
[691] Vrancken op cit note 479 pg. 69.

law, and are applicable to, and are enforceable on, the PEIs through domestic means, i.e. South African courts (specifically Cape Town).

In 2003 the PEIs were declared Special Nature Reserves,[692] in terms of section 4(1) (a) of the National Environmental Management: Protected Areas Act 57 of 2003.[693] In terms of Section 18(2) of the Act, the declaration of an area as a special nature reserve is done:

> "(a) to protect highly sensitive, outstanding ecosystems, species or geological or physical features in the area; and
> (b) to make the area primarily available for scientific research or environmental monitoring."

The purposes behind declaring an area to be protected are multiple and are listed in section 17 of the same Act, namely;

> "(a) to protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in a system of protected areas;
> (b) to preserve the ecological integrity of those areas;
> (c) to conserve biodiversity in those areas;
> (d) to protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa;
> (e) to protect South Africa's threatened or rare species;
> (f) to protect an area which is vulnerable or ecologically sensitive;
> (g) to assist in ensuring the sustained supply of environmental goods and services;
> (h) to provide for the sustainable use of natural and biological resources;
> (i) to create or augment destinations for nature-based tourism;
> (j) to manage the interrelationship between natural environmental biodiversity, human settlement and economic development;
> (k) generally, to contribute to human, social, cultural, spiritual and economic development; or
> (l) to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species."

Vrancken summarises the implications for the PEIs thus:

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[692] In term s of Section 18(2) of the Act, the declaration of an area as a special nature reserve is done;
"(a) to protect highly sensitive, outstanding ecosystems, species or geological or physical features in the area; and
(b) to make the area primarily available for scientific research or environmental monitoring."

[693] "Application of Act
4(1) This Act also applies-
(a) in the Prince Edward Islands referred to in section 1 of the Prince Edward Islands Act, 1948 (Act No. 43 of 1948)."
National Environmental Management: Protected Areas Act 57 of 2003.

> "This means that the State must act as the trustee of the Islands and implement the NEMPAA ("in partnership with the people to achieve the progressive realisation of the rights entrenched in section 24 of the Constitution.")[694]

In 2007 South Africa, in terms of the 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR), which it ratified in 1975, designated the PEIs as a Wetland site.[695] Accordingly, the Islands now appear on the Annotated List of Wetlands of International Importance.[696]

The PEI environment is also regulated (and protected) through various other pieces of domestic legislation and subsidiary legislation, namely:

- The Maritime Zones Act, which provides in section 14 that "This Act shall also apply to the Prince Edward Islands as defined in section 1 of the Prince Edward Islands Act, 1948 (Act No. 43 of 1948)."[697] The Act defines South Africa's internal and territorial waters and goes on, in section 3(2) to state that "Any law in force in the Republic; including the common law; shall also apply in its internal waters and the airspace above its internal waters" and in section 4(1) that "The sea within a distance of twelve nautical miles from the baselines shall be the territorial waters of the Republic." Section 4(2) states that "Any law in force in the Republic, including the common law; shall also apply in its territorial waters and the airspace above its territorial waters." South African common law, therefore, also applies to the PEI maritime zones.

- The Marine Living Resources Act, which provides in section 3(1)(c) that the Act applies to "the Prince Edward Islands referred to in section 1 of the Prince Edward Islands Act, 1948 (Act No. 43 of 1948), and any reference in this Act to the Republic shall include a reference to those Islands."[698] The Act provides for

  > "the conservation of the marine ecosystem, the long-term sustainable utilisation of marine living resources and the orderly access to exploitation, utilisation and protection of certain marine living resources; and for these purposes to provide for the exercise of control over marine living resources in a fair and equitable manner."[699]

- National Environmental Management: Biodiversity Act (NEMBA), which provides in section 4(1)(a)(ii) that the Act applies to "the Prince Edward Islands referred to in the

[694] Vrancken op cit note 479 pg. 70.
[695] https://rsis.ramsar.org/ris/1688?language=en. November 2020.
[696] https://rsis.ramsar.org/sites/default/files/rsiswp_search/exports/Ramsar-Sites-annotated-summary-South-Africa.pdf?1604958861. November 2020.
[697] The Maritime Zones Act 15 of 1994.
[698] The Marine Living Resources Act 18 of 1998.
[699] Preamble to the Marine Living Resources Act 18 of 1998.

Prince Edward Islands Act, 1948"[700] This Act provides, inter alia, for "... the management and conservation of South Africa's biodiversity" and "... the protection of species and ecosystems that warrant national protection." [701]

- Framed under the Marine Living Resources Act are the Regulations for the Management of the Prince Edward Islands Marine Protected Area.[702] The purpose of the regulations is to:

"(a) To contribute to a national and global representative system of marine protected areas, by providing protection for unique species, habitats and ecosystem processes including foraging grounds and shelf areas with increased nutrients;
(b) To provide scientific reference points that can Inform the management of the area and to be able to understand better the impacts of Climate Change on the whole Southern Ocean;
(c) To facilitate integrated and ecologically sustainable management of marine resources of the area; and
(d) To reduce the ecological impacts of fisheries and other extractive industries including effects on by-catch species such as albatrosses and petrels."[703]

In 2009 South Africa submitted the Islands to UNESCO for consideration as a possible UNESCO World Heritage site,[704] but was unsuccessful.[705] However, the Islands remained on the UNESCO 'Tentative List', a list of sites which "each State Party considers suitable for inscription on the World Heritage List,"[706] until 2015 when they were inexplicably removed. This does not, it would seem, indicate a diminution in consideration of their importance, but may be for financial or political reasons.[707] This is especially so as, firstly, South Africa, as mentioned previously in this chapter, had continued to invest financially (heavily) in the

[700] The National Environmental Management: Biodiversity Act 10 of 2004.
[701] Preamble to The National Environmental Management: Biodiversity Act 10 of 2004.
[702] Regulations for the Management of The Prince Edward Islands Marine Protected Area, Published under Government Notice R422 in Government Gazette 36572, dated 21 June 2013.
[703] Section 2 of the Regulations for the Management of The Prince Edward Islands Marine Protected Area, 2013.
[704] Alphabetical Summary Table and Index of Recommendations by IUCN and ICOMOS to the 31st session of the World Heritage Committee (23 June – 2 July 2007)1. State Party: South Africa, World Heritage nomination: Prince Edward Islands, ID No.: 1266 N (vii) (viii) (ix) (x) 07.
[705] "Draft Decision: 31 COM 8B.10
The World Heritage Committee,
1. Having examined Documents WHC-07/31.COM/8B and WHC-07/31.COM/INF.8B.2,
2. Decides not to inscribe the Prince Edward Islands, South Africa, on the World Heritage List on the basis of natural criteria."
[706] http://www.theheritageportal.co.za/article/sa-removes-sites-unesco-world-heritage-tentative-list. November 2020.
[707] No reasonable explanation has been offered but it seems unlikely that the removal of the Prince Edward Islands is linked to a change in attitude to the protection and value of the Prince Edward Islands. Their removal appears to be more of a political or administrative decision for other undisclosed reasons. Five other sites were also removed (Pilgrim's Rest Reduction Works Industrial Heritage Site; Kimberley Mines and Associated Early Industries; Alexandria Coastal Dunefields; The Namaqualand Copper Mining Landscape and The Cape Arc of Meridian). One new site was added, Human Rights, Liberation Struggle and Reconciliation: Nelson Mandela Legacy Sites, even though parts of it are already included in the proposed Liberation Heritage Route.

Islands with the construction of the new Marion Island Base (opened in 2011) and the acquisition of the SA Agulhas II in 2012, and, secondly, because South Africa has continued to strengthen its protective measures over the PEIs. To this end, in 2013, South Africa declared the PEIs a Marine Protected Area. This was South Africa's first offshore MPA,[708] and the motivation behind the move was to "maximise conservation benefits".[709]

> "The Prince Edward Islands MPA is a significant contribution to the conservation of global biodiversity. The new MPA will also contribute significantly towards South Africa's national and international commitments to biodiversity protection … the new MPA is intended, among other things, to contribute to the protection of unique species, habitats and ecosystem processes. It will also provide scientific reference points that can inform the future management of the area and to be able to understand better the impacts of climate change on the whole Southern Ocean. It will also contribute to integrated and ecologically sustainable management of marine resources of the area."[710]

The PEIs' MPA is extremely significant, both because of what it says about South Africa's commitment to environmental protection and conservation in general and the PEIs in particular, but also because it is an environmentally important development. The official press release by the Department of Water and Environmental Affairs (the same DEA, DEAT, DFFE but in yet another naming iteration) summarises the significance of the PEIs and thus the importance of the MPA thus:

> "The rationale for the zonation is that the MPA will have a 12nm sanctuary zone for the preservation of the unique island ecosystem and to contribute towards the recovery of the toothfish populations. The MPA will still allow limited utilisation of Patagonian toothfish resources by South African vessels outside the sanctuary area. The marine biodiversity of the Prince Edward Islands is of global importance. Given the scarcity of land masses in the Southern Ocean, sub-Antarctic islands contain vast populations of seals and seabirds, which use these islands to breed and moult. This means that these islands are critical to the conservation of such species as they are forced to aggregate in high densities where they are vulnerable to disturbance and the threat of introduced predators or pathogens."[711]

[708] Sidiropoulos & Wheeler op cit note 452 pgs. 36-37.
[709] The Minister of Water and Environmental Affairs Mrs BEE Molewa, MP, Department of Water and Environmental Affairs Communique: Prince Edward Islands declared a Marine Protected Area 9 April 2013.
[710] Ibid.
[711] Ibid.

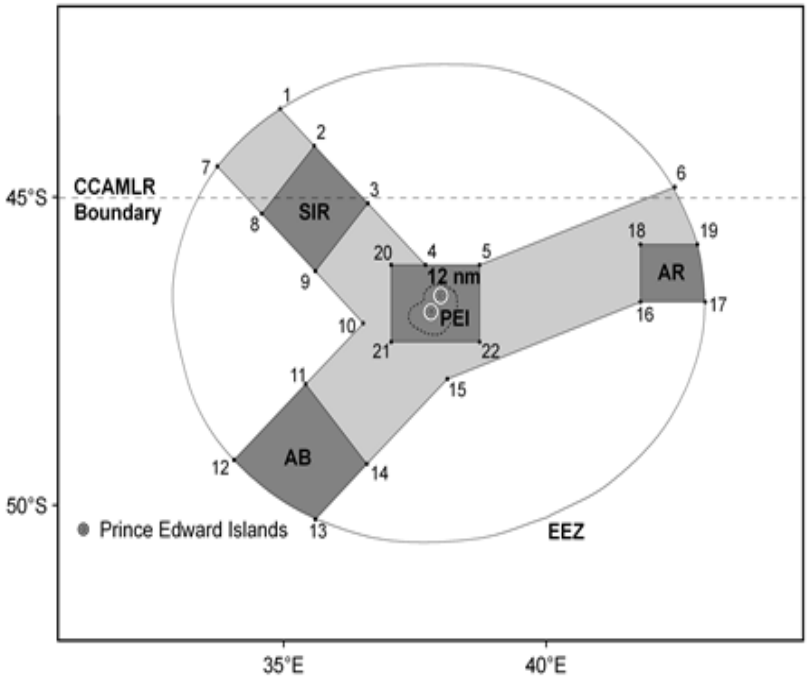

Diagram: Department of Water and Environmental Affairs: Prince Edward Islands declared a Marine Protected Area, 9 April 2013.[712]

There are four restricted zones in which fishing is limited, with the 12 nautical mile zone immediately surrounding the Islands being declared a no take zone. The restricted zones are linked by a control zone "to be managed as a low impact zone that links the 4 zones spatially".[713] At the time of its creation the PEIs MPA was the 7th largest MPA, globally with a size of 180 000km^2.[714] It is clear that the MPA is motivated both by environmental protection and marine resource conservation concerns and this accords with other moves by South Africa to strengthen and protect its marine interests.[715]

The PEIs thus occupy an extremely significant space in South Africa's Antarctic tapestry. This is not only because of their historical role in securing South Africa's membership of the ATS and their practical importance meteorologically for the South African mainland, but also because South Africa's considerable investment in scientific research based on or around the islands has resulted in a steady stream of scientific publications of international quality covering a range of areas of research. This research, as it has in the past, plays a significant role in maintaining South Africa's Antarctic scientific profile.[716] As Prof Steven Chown noted

[712] Ibid.
[713] Ibid.
[714] Sidiropoulos & Wheeler op cit note 452 pgs. 36-37.
[715] "South Africa has also submitted two claims to the UN Commission on the Limits of the Continental Shelf – one for the shelf extending from the mainland and another for the shelf around its two sub-Antarctic territories of Marion and Prince Edward Islands. … None of the claims falls south of the 60th parallel South … If approved, rights to the extended continental shelf will include fishing and mineral exploitation." Sidiropoulos & Wheeler op cit note 452 pg. 36.
[716] According to a senior South African scientist research emanating from the Prince Edward Islands helps South Africa "punch above its weight in the geopolitical context of the vast and important Southern Ocean region."

in remarks made at the opening of the new Marion Island Base in 2011, about the significance of the base,

> "Strategically, it's very important for us to be there (in the treaty system), and we have to be involved if we want to remain a member, and it's also important to do world-class science, because your status in the (geopolitical) system depends on the quality of your work."[717]

These remarks echo the comments made by the international panel of experts in the 2007 external review of SANAP (the Report), referred to above, namely, that

> "It is already clear how science on the PEI underpins both good management and national sovereignty. The South African Government has seen over the past 50 years how a strong science base enhances the status of any Party in the Antarctic Treaty System (ATS), and also secures its continuing role as a Consultative Party."[718]

Although the detailed analysis, in the Report, of South Africa's Antarctic and Southern Ocean scientific output (which includes research emanating from the Prince Edward Islands) does not provide a regional breakdown (the research outputs are considered on a disciplinary basis) it is clear from the analysis that the Prince Edward Islands are a significant contributor to South Africa's overall output.[719]

The scientific research conducted on the Prince Edward Islands covers several different fields, ranging from ornithology to invasive species, marine mammals, the impact of climate change, the islands ecosystem, invertebrates, human interaction and even, recently, astronomy — searching for and measuring the cosmic dawn with Span Probing Radio Intensity at High-Z.[720] Of course, the importance of the PEIs goes beyond a mere list of the published research relating to the PEIs themselves. South African and other scientists with roots in the PEIs have gone on to share expertise gleaned from the PEIs elsewhere on other Sub-Antarctic islands,[721] in the Southern Ocean and across Antarctica. Professor Steven Chown, for example, one of the authors of the PEI Management Plan and a former chairman of the Prince Edward Islands management committee was, until recently, director of the Centre for Invasion Biology at Stellenbosch University, and is the current Chairman of the Scientific Committee on Antarctic Research (SCAR).

Yeld J, "New Marion Island base opens" Cape Argus Mar 18, 2011. https://www.iol.co.za/capeargus/new-marion-island-base-opens-1043782. November 2020.

[717] Ibid.

[718] Walton *et al* op cit note 642 pg. 17.

[719] "The Commissioned Review covered the period 1998-2007 and listed 426 peer reviewed publications." Walton et al op cit note 642 pgs. 19-22. For some insight into scientific research conducted in 2008 – 2010 see the South African National Member Reports to SCAR at https://www.scar.org/library/national-member-reports/south-africa/3759-south-africa-national-report-2008-09/ and https://www.scar.org/library/national-member-reports/south-africa/3760-south-africa-national-report-2009-10/. (January 2021)

[720] Philip LZ, Abdurashidova HC, Chiang N, Ghazi A, Gumba HM, Heilgendor JM, *et al* "Probing Radio Intensity at High-Z from Marion: 2017 Instrument", *Journal of Astronomical Instrumentation*, 2019 8 (2) 1950004.

[721] Gough Island for example.

4.5.2 The Antarctic continent

Unlike the PEIs, South Africa's Antarctic policy, at a practical level, has been relatively consistent. As has been seen in the preceding chapters, SA has maintained a continuous presence at a series of SA Stations over the years. SA's post-apartheid approach, once South Africa's continued involvement was settled, has not only been a reaffirmation of its commitment but has allowed SA (and SA scientists in particular) to continue and develop its Antarctic programmes unshackled by the constraints of the apartheid era. Better physical infrastructure (SANAE IV and the SA Agulhas II), better scientific control or influence over research budgets (the Antarctic scientific research budget is now controlled by the NRF[722]), developing programmes of research, programmes of research capacity development,[723] international collaboration and individual scientists continuing the tradition of developing international reputations in Antarctic research, all suggest that the present position is positive. The fact that, at a philosophical level, South Africa's continued commitment to Antarctica after 1995 was on the basis of the value of Antarctica to the whole nation of South Africa,[724] and not on the apartheid era philosophy of political strategy, reputation and geopolitical (including military or 'security') concerns,[725] has, however, significantly legitimised and improved the moral standing of South Africa's involvement. As Sidiropoulos and Wheeler note, "Over the last 20 years South Africa has been focussing on its presence in Antarctica largely through the prism of science and research."[726] Notwithstanding some minor issues, perhaps the best indicator of the quiet consistency and success of the Antarctic programme has been the lack of any reporting on controversial or problematic issues emanating from SANAE IV – apart from the Station's initial 'unpaletteable' colour scheme.[727] There have, however, been numerous reports of positive endeavour. South Africa has enhanced its reputation and has made a visible impact on the continent. The

[722] Sidiropoulos & Wheeler op cit note 452 pg. 34. "The National Research Foundation (NRF) is the agency responsible for grant-making on behalf of the DST."
[723] "The SANAP funding instrument is designed to ensure the creation of a demographically balanced Antarctic research programme focusing on internationally competitive research, and encourages the creation of links with other African countries." Sidiropoulos & Wheeler op cit note 452 pg. 36. The document referred to is the NRF, 'South African National Antarctic Programme (SANAP) Funding Instrument, Knowledge Fields Development, Framework Document', April 2014, p. 7, http://www.nrf.ac.za/sites/default/files/documents/2015%20SANAP%20Framework%20Document.pdf. November 2020.
[724] Department of Environmental Affairs and Tourism. Cabinet Memorandum: "Continuation of the South African National Antarctic Programme, (SANAP)," Revision 5, 30 May 1995, DIRCO BTS 102/2/7 volume 37.
[725] "South Africa's strategic interest in Antarctica is no longer founded on its narrow geopolitical value, but rather on environmental issues such as changing ozone levels, climate change and the exploitation of living resources." Sidiropoulos & Wheeler op cit note 452 pg. 32. See Dodds op cit note 331 pg. 75.
[726] Sidiropoulos & Wheeler op cit note 452 pg. 32.
[727] Until 2019, when bureaucratic incompetence on the part of the Department of Public Works resulted in them not paying the building contractor contracted to renovated SANAE IV between 2015 and 2019. As was pointed out in an open letter to the Minister of Public Works, by the contractor's attorney "The risk of severe reputational damage to our government caused by this lapse of administration … is significant." Payment dispute setback for Antarctic base, https://legalbrief.co.za/diary/legalbrief-africa-new/story/payment-dispute-setback-for-antarctic-base-2/pdf/. May 2019.

SANAE IV base "is considered one of the most sophisticated on the ice continent"[728] and it has been at the forefront of serious innovation. As Tiara Walters, one of the members of the SANAP expedition to dismantle the defunct German Neumayer II Station notes, with regard to Neumayer II, much of it was based "on the underground shaft design of South Africa's former research station, SANAE III," making the case that "Sanap's engineers and architects have generally been ahead of the ice pack."[729] Walters goes on to note that "South Africa had established itself as a force in ice engineering when it unveiled Sanae IV in 1997 – then the most high-tech base in all of Antarctica."[730] SANAE IV was the largest Antarctic station ever to be unveiled on stilts[731] and it was only 12 years later that the Germans followed with their own above-ground, raised design."[732] Indeed, the innovative design of SANAE IV not only influenced the design of Neumayer III, but has been used and further developed by other leading Antarctic specialist architects. Britain's Halley VI Research Station, designed by Hugh Broughton Architects, owes a significant debt to the SANAE IV stilt design, being itself built on hydraulic stilts that keep the station above the ice. The hydraulic stilts allow the station to be gradually raised as ice builds up beneath it,[733] threatening to subsume it, as was the fate of the first four incarnations of Halley Station.[734] Indeed, Halley VI was built by a South African contractor[735] in Cape Town,[736] before shipping to Antarctica.[737] South African innovation, however, goes even further. In deconstructing Neumayer II, the South Africans salvaged materials from the base and constructed a SANAP Emergency base (E-base)[738] which is now used as the SANAP Summer Station, referred to by the Germans as SSS, but which serves a dual purpose: "The SSS, situated 6 km north from Neumayer Station III, is used by the SANAP as a base for their ship unloading operations at Atka Bay during summer. During the winter months it can be used by the Neumayer Station

[728] Payment dispute setback for Antarctic base, https://legalbrief.co.za/diary/legalbrief-africa-new/story/payment-dispute-setback-for-antarctic-base-2/pdf/. May 2019.
[729] Walters op cit note 578.
[730] The innovations were not only external, "Sanae IV was the first base in Antarctica to have a sewage treatment and water-purification system, fibre-optic cables and a raised fibreglass design." Walters op cit note 578.
[731] Although Halley V Research Station, on the Brunt Ice Shelf, was also built above the ice on legs.
[732] Walters op cit note 578.
[733] In fact, these stilts are built on large skis which allow for the entire Station to be moved to an alternative location, as was done in 2017 to avoid a large crack in the ice shelf. https://www.bas.ac.uk/project/moving-halley/. November 2020. It January 2017 it was decided that, due to the risk of non-evacuation in winter due to another large crack, Halley VI would not be occupied in winter and would thus be a summer station only, until the ice shelf stabilises. https://www.bas.ac.uk/media-post/halley-vi-research-station-relocation-success/. November 2020.
[734] Halley V was, like all the Halley Stations, built on the Brunt Ice shelf. A possible calving threatened the Station which was then replaced by Halley VI. Halley V was dismantled in 2012 once Halley VI was operational.
[735] Petrel Engineering Africa (Pty) Ltd. http://www.petrel.co.za/Projects/HalleyVI.aspx. November 2020.
[736] British Antarctic Survey, https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/halley/halleyvi/. See http://www.antarctica.ac.uk/living_and_working/research_stations/halley/halleyvi/. November 2020.
[737] "The centre of pre-construction activities [was] in South Africa, where full scale trial erection of modules was undertaken prior to shipping to Antarctica." Hough Broughton Architects, https://hbarchitects.co.uk/halley-vi-british-antarctic-research-station/. November 2020.
[738] The entire E-base was constructed out of reused parts of Neumayer II, apart from "the heating, hot-water plumbing and air-circulation systems, two ovens and some fittings." Walters op cit note 578.

III overwintering team in case of emergency."[739] The E-base itself was the source of further engineering innovation, being constructed on legs that can be used to hydraulically raise the E-base above the snow and ice.[740] As the Germans note in their report Polar and Marine Research: Expeditions to Antarctica in 2020, 10 years after the construction of the E-base, "By means of the hydraulic system and extended support legs, the station could be driven up, so that it now is now positioned clearly above the snow level."[741]

Further, South Africa continues to invest significantly in its capital infrastructure in Antarctica. SANAE IV is estimated to have cost R85 million in 1997 at the time of its commissioning and it underwent refurbishment in 2020 "at a cost of about R300m."[742]

Apart from infrastructural investment and innovation in Antarctica, South Africa has also developed and strengthened its policy and political involvement in Antarctica and has strengthened its commitment to its responsibilities on the continent both as an ATCP and in terms of its environmental responsibilities. A supporter of the Madrid Protocol from its inception in 1991, South Africa signed the Protocol in July 1995.[743] It had already, as mentioned previously, given an indication of its intentions with regard to the Protocol by complying with the Protocol with respect to performing the proper and required EIAs prior to the relocation, and subsequent construction, of SANAE IV. As this was done well prior to July 1995, compliance was, while not strictly speaking voluntary,[744] nonetheless an indication of a proactive, Protocol-orientated attitude and the impact has not gone unnoticed, with Dodds noting that "South Africa has established important precedents concerning the environmental evaluation of its activities in the Antarctic and the implementation of the Protocol."[745] South Africa's further commitment to the Protocol was formalised in 1996 with the passing of the Antarctic Treaties Act 60 of 1996. The significance of this with regard to the PEIs has been discussed above. The PEIs are, however, already SA territory, so the true significance of the Antarctic Treaty Act is best appreciated with regard to the effect it has on South Africa's Antarctic activities. The Act, as mentioned previously, incorporates four Antarctic "treaties", namely "I Antarctic Treaty, II Protocol on Environmental Protection to the Antarctic Treaty, III Convention for the

[739] Fromm T, Oberdieck C, Matz T, & Wesche C, (eds.) Berichte zur Polar- und Meeresforschung 2020 Reports on Polar and Marine Research: Expeditions to Antarctica: ANT-Land 2019/20 Neumayer Station III, Kohnen Station, Flight Operations and Field Campaigns, pgs. 11–12.
[740] "The E-Base had its own 'big idea' – a steel frame with a 3-m ground clearance, to be hydraulically jacked up by 2 m every two years to beat the snow at its own game." Walters op cit note 578.
[741] Fromm *et al* op cit note 738 pgs. 11–12.
[742] DEA Final ASOS pg. 13.
[743] Dodds summarises South Africa's position thus: "South Africa subsequently embraced the Protocol with considerable public vigour." Dodds op cit note 305 pg. 402.
[744] The Protocol only came into force in 1998, but the ATCPs agreed to implement, as far as possible, its measures in the interim.
[745] Dodds op cit note 305 pg. 403. Dodds also notes that "South African delegations to the Consultative Meetings have shown considerable interest in developing particular elements of the Protocol including oil spill contingency plans, environmental evaluation of Antarctic activities, and support for the creation of an Antarctic Treaty Secretariat." Dodds op cit note 305 pg. 403. The Secretariat has, since the time of Dodds's writing, been established. It should also be remembered that South Africa was the original proposer of the creation of a dedicated Antarctic Secretariat, back in 1961.

Conservation of Antarctic Seals and IV Convention on the Conservation of Antarctic Marine Living Resources"[746] into South African law.[747] Section 3 thereof simply states that "the treaties mentioned in Schedule I shall form part of the law of the Republic."[748] This includes the Madrid Protocol and so, as Dodds correctly notes, "Once published in the Government Gazette the Protocol effectively becomes part of South African law" which, of course, holds true for the other treaties as well.[749] The Protocol was thus effective and applicable in South Africa before it came into effect in Antarctica on the 14th January 1998. Dodds summarises the significance of the Antarctic Treaty Act stating that,

> The 1996 Antarctic Treaties Act also reiterated South Africa's commitment to implementing the legal obligations stemming from the Antarctic Treaty, CCAMLR and the Convention for the Conservation of Antarctic Seals. Articles 4-9 of the Act relate to the enforcement of the Protocol and detail the power of the Minister attached to the Department of Environmental Affairs and Tourism to enforce the Protocol.[750]

The Antarctic Treaty Act is also significant in the scope of its application.[751] Section 2 provides that

> **Application of Act**
> "2. This Act shall apply in Antarctica to-
> (a) a South African citizen;
> (b) a person who is not a South African citizen, but who is ordinarily resident in the Republic, except if that person is-
> (i) on board any ship, vessel or aircraft that is operating, whether exclusively or not, in support of any expedition organised by the government of another Contracting Party; or
> (ii) a citizen of another Contracting Party, while that person is in any part of Antarctica for the purpose of exercising his or her functions, whether as an inspector, observer or other official or exchange scientist contemplated in a treaty;
> (c) a citizen of another Contracting Party, if immunity of that person has been waived by that Party;

[746] Schedule 1 to the Antarctic Treaties Act 60 of 1996.
[747] "In November 1996, the Antarctic Treaties Act was signed by the President of South Africa. …the 1996 Act effectively incorporates the Protocol (without modification) into South African domestic legislation." Dodds op cit note 305 pg. 405.
[748] Section 3(1) Antarctic Treaties Act 60 of 1996.
[749] Dodds also notes that this process is in accordance with the South African Constitution which provides that "Any international agreement becomes law when it is enacted into law by national legislation; but a self-executing provision of an agreement that has been approved by Parliament is law in the Republic unless it is inconsistent with the Constitution or an Act of Parliament." Section 231(4) Constitution of the Republic of South Africa, Act 108 of 1996. Dodds op cit note 305 pg. 405.
[750] Dodds op cit note 305 pg. 405.
[751] We have already seen that it is applicable to the Prince Edward Islands, thus incorporating the various Antarctic Treaties into the regulation of the Prince Edward Islands notwithstanding their location outside the Antarctic Treaty area and the Protocol area.

(d) any person, whether a South African citizen or not, who is a member of or is responsible for organising an expedition which has been organised in the Republic to visit Antarctica, but not an expedition organised by the government of another Contracting Party;
(e) companies, close corporations, or other juristic persons registered as such under the laws of the Republic, operating or using any ship, vessel or aircraft registered in the Republic."[752]

The application provisions are relatively self-explanatory and essentially apply to, whilst in Antarctica,

> "… any SA citizen, any ordinary resident, citizens of other contracting parties (if immunity has been waived), any person who is a member of a SA expedition and SA registered juristic persons."[753]

While this general application provision covers the application of all the Antarctic Treaty System's treaties, the Act also contains a specific environmental protection agenda. Sections 4 to 9 focus specifically on the environmental protection of Antarctica, primarily through the enforcement of the Protocol, but also with reference to some aspects of the other treaties. Section 4 empowers the Minister of the DEAT to act,

> "If any person to whom this Act applies performs any activity or fails to perform any activity in contravention of a treaty as a result of which the Antarctic environment is or may be seriously damaged, endangered or detrimentally affected."[754]

This seemingly brief section is significant for a number of reasons. Firstly, it places the environmental protection of Antarctica firmly at the forefront of South African legislative policy. Secondly, it is proactive and not merely reactive in that it empowers the Minister to act if it becomes apparent that "the Antarctic environment *may* be seriously damaged, endangered or detrimentally affected"[755] as opposed to reacting to harm that has already been inflicted. Thirdly, it applies not only to acts of commission, whereby a deliberate or negligent act is committed which has or may have a negative impact, but also to acts of omission. In South African law, acts of omission are, in very general terms, not normally considered wrongful unless there is a legal duty to act. Essentially, it can be argued, the Act creates and imposes an obligation on South Africa and South Africans to act, within the scope of the Antarctic Treaties, when circumstances are such that a failure to act would have a negative impact on the Antarctic environment.

[752] Section 2 Antarctic Treaties Act 60 of 1996.
[753] Bellengère A, The Regulation of Invasive Species in Antarctica: South Africa's role, Conference presentation at the TrapProBio Invasive Alien Species Berlin 5th November 2012.
[754] Section 4 of Act 60 of 1996.
[755] Section 4(1) Act 60 of 1996. Author's emphasis.

The Minister is entitled to direct that any person to whom the Act applies, either cease the identified activity, or take steps determined and imposed by the Minister, designed to eliminate the harm or potential harm of the activity, within a specified time.[756]

In the event that environmental harm has occurred, the Act provides, in section 4(2), that the Minister may direct the perpetrator of the harm to repair or rehabilitate the damage caused at his/her/its expense.[757] Of course this is not always enforceable (or indeed desirable), in which case the Minister is authorised to take the necessary steps (or to appoint someone to do so) and may recover the costs of doing so from the perpetrator.[758]

Section 4(5), ensures that all the same provisions also apply, mutatis mutandis, "to acts relating to animals and plants in Antarctica."[759]

Essentially, the Act provides a domestic enforcement mechanism for the Madrid Protocol. However, the Act goes further and, in section 9, provides the Minister with a significant additional enforcement tool. It criminalises certain environmental (and other) contraventions of the various Antarctic treaties, and it does so in a very express and explicit manner.

> **Offences**
> 9. Any person who contravenes a provision of a treaty mentioned in Column I of Schedule 2 shall, subject to the particular treaty, be guilty of an offence and on conviction liable to a fine or to imprisonment for a period not exceeding the period mentioned in Column 2 of that Schedule opposite the number of that provision."[760]

The listed provisions are worth noting, as are the penalties envisaged. They appear in Schedule 2 to the Act.

SCHEDULE 2

Column 1	Column 2
I. Antarctic Treaty	
a. Article I (Use of Antarctica for purposes other than	

[756] "… the Minister may in writing direct that person, within a period specified in the direction-
(a) to cease that activity; or
(b) to take such steps as the Minister may deem fit with a view to eliminating, reducing or preventing the damage, danger or detrimental effect. Section 4(1) Act 60 of 1996.
[757] Section 4(2) "The Minister may in writing direct the person referred to in subsection (1) to perform any activity or function, at the expense of that person, with a view to repairing or rehabilitating any damage caused to the Antarctic environment." Act 60 of 1996.
[758] Section 4(3) and 4(4) "(3) If the person referred to in subsection (2) refuses or fails to comply with the direction of the Minister, the Minister may take the necessary steps in order to repair or rehabilitate the damage, and the Minister may authorise any person to take all steps required for that purpose.
(4) The Minister may recover any expenditure incurred in the performance of any function contemplated in subsection (3) from the person who refused or failed to comply with a direction under subsection (2)." Act 60 of 1996.
[759] Section 4(5) Act 60 of 1996.
[760] Section 9 of Act 60 of 1996.

	peaceful purposes)	Five years
	b. Article V (Nuclear explosions and disposal of radioactive waste material)	Twenty years
II.		
1.	Protocol on Environmental Protection to the Antarctic Treaty	
	a. Article 3 (Activities damaging the Antarctic environment)	Two years
	b. Article 7 (Mineral resource activities)	Five years
2.	Annex II to the Protocol on Environmental Protection to the Antarctic Treaty: Conservation of Antarctic Fauna and Flora	
	a. Article 3 (Taking of or harmful interference with animals or plants)	One year
	b. Article 4 (Introducing foreign animals or plants into Antarctica)	Two years
3.	Annex III to the Protocol on Environmental Protection to the Antarctic Treaty: Waste Disposal and Waste Management	
	a. Articles 2 to 6 (Disposal or storage of waste)	One year
	b. Article 7 (Introducing a prohibited product in Antarctica)	One year
4.	Annex IV to the Protocol on Environmental Protection to the Antarctic Treaty: Prevention of Marine Pollution	
	a. Article 3 (Discharge of oil or oily mixture into the sea)	Five years
	b. Article 4 (Discharge of noxious liquid or chemical substance into the sea)	Five years
	c. Article 5 (Disposal of garbage into the sea)	Two years
	d. Article 6 (Discharge of sewage into the sea)	Two years
5.	Annex V to the Protocol on Environmental Protection to the Antarctic Treaty: Area Protection and Management	
	a. Article 3 (Entry into Antarctic Specially Protected Area)	One year
	b. Article 8 (Damaging, removing or destroying a historic site or monument)	Two years
III.	Convention on the Conservation of Antarctic Seals	
	a. Article 2 (Capturing or killing of seals)	Two years
IV.	Convention on the Conservation of Antarctic Marine Living Resources	
	a. Article II (Harvesting of marine living resources)	Five years[761]

The effect of the Act is to provide for areas where specifically enforceable offences can be prosecuted, and, in section 8, to provide a jurisdictional area within which such prosecutions are to take place, namely the Cape Town Magisterial District.[762] Although the Act seems to focus primarily on the implementation of the Madrid Protocol, as is evident from section 4(5) discussed above, the Act also provides for animals and plants in Antarctica and Schedule 2, also mentioned above, makes this clear by listing offences in respect of obligations imposed by both CCAS and CCAMLR. For further detailed analysis, Dodds provides a succinct description of the effects of the Act with regard to the implementation of the

[761] Schedule 2 to Act 60 of 1996.
[762] "For the purposes of the application of this Act, Antarctica shall be deemed to be situated within the magisterial district of Cape Town." Section 8 of Act 60 of 1996.

Protocol (and the other treaties) in his chapter 'Implementing the Protocol' in Vidas *et al*, where he provides the pithy example that,

> "For instance, any person (not having immunity from prosecution) found guilty of damaging a historic site or monument can be imprisoned for up to two years in a South African prison."[763]

However, as Dodds remarks, these laws, while impressive, are only as useful as the extent of their enforcement and to the extent that they serve as a deterrent.[764] There have been no prosecutions to date which, coupled with the responsible implementation of the necessary measures required to ensure compliance with all protocols, would seem to indicate that, as a deterrent, these provisions are serving their purpose.

South Africa's involvement in Antarctica itself also is a direct source of scientific research that goes beyond the origins of SANAE as a meteorological station. As discussed previously, it was South Africa's scientific research presence in Antarctica in the 1957 IGY/IPY that led to it being included, together with the 11 other scientifically active nations, in the creation of the AT. South Africa's scientific research profile has steadily increased ever since and this is also still the case at present with ever increasing areas of research being added. Some areas in which South African scientists have been involved during the present era include invasive species research, research in the humanities and geopolitics, the future of Antarctica and the protection of its biodiversity, geology, and numerous other fields, in particular South Africa's space science and technology interests.[765] Numerous scientific publications, as mentioned above, have over the last two decades cemented South Africa's scientific research reputation. This involvement is ongoing and

> "…ranges from upper air research with cosmic rays to geological earth sciences … the observation of various natural phenomena occurring in the cosmos, in the atmosphere or the electromagnetic field surrounding the earth, as well as in the crust of the earth itself, [including] auroras, solar winds and the ozone layer."[766]

[763] Dodds op cit note 305 pg. 407.
[764] Ibid.
[765] The South African National Space Agency (SANSA) Space Science programme focuses on studying the Earth's magnetic field, the Sun and the near-space environment. To this end SANSA maintains several space science and space weather projects in Antarctica and has an auroral radar installation at SANAE-IV base. In 2013 SANSA installed a new Digital HF Radar, which is part of an international network of SuperDARN radars monitoring the near-Earth space environment, at SANAE IV. South African National Space Agency. https://www.sansa.org.za/about-sansa/#Programmes. January 2021. Space Science research was, of course, conducted at SANAE IV (and III) prior to the creation of SANSA (in 2010). For example, the Southern Hemisphere Auroral Radar Experiment (SHARE), which involved dual radars at SANAE and the British Halley Station was co-initiated by Professor David Walker in 1993. He remained a principal investigator until 2002.
[766] Council of Managers of the Antarctic National Programs (COMNAP). 'South African National Antarctic Program (SANAP)'. https://www.comnap.aq/our-members/south-african-national-antarctic-programsanap/. January 2021.

4.5.3 Southern Ocean

It is South Africa's interests in the Southern Ocean which have, arguably, progressed most significantly in recent years (post-apartheid). The Southern Ocean has always been important to South Africa. The establishment of meteorological stations, initially on Tristan da Cunha, then on Marion Island, and then on Gough Island (moved from Tristan da Cunha) has meant that, even prior to the advent of the Antarctic Treaty itself, South Africa has been directly involved in the Southern Ocean. This involvement was not always scientific, however, and a swathe of other, less laudable interests have prevailed at various times. As seen in previous chapters, commercial exploitation has been a driving factor in different guises at different times (sealing, whaling, fishing and krill), and SA still harbours various commercial interests, including the developing field of bioprospecting. In addition, geopolitical interests have also prevailed at various times. The Tristan da Cunha metrological base was actually set up primarily as a naval radio reconnaissance and transmission station to report on Nazi U-boat activity, and a significant driving factor in SA's annexation of the PEIs can be attributed to a National Party fear of a Soviet bloc (Russian) threat, which, whether rationally or not, they thought might manifest in an attempt to gain control over the islands for use as a missile base to attack SA. There were also thoughts of control over potential international flight paths.

However, from a scientific point of view, SA's involvement in the Southern Ocean has been developing considerably. From an initial peripheral interest on the Discovery expeditions, South Africa had a well-developed track record in scientific research by the time apartheid ended.[767] Already in the late 1970 and early 1980s by participating in the BIOMAS project[768] South Africa has begun to significantly develop its Southern Ocean scientific interests. As Van der Watt points out[769] this prompted the relocation of the SA "Southern Ocean Programme from the South African National Committee for Oceanographic Research (SANCOR) to the South African Scientific Committee for Antarctic Research (SASCAR)" effectively bringing Southern Ocean research within the South African Antarctic programme. Treasure *et al* also refer to South Africa's historically significant research impact and reputation, noting that

[767] See the previous chapter for an analysis of South Africa's Southern Ocean scientific footprint. See also Van der Watt op cit note 414 pg. 148: "The link between BIOMASS and the ATS in South Africa was reflected by, amongst other things, the CSIR moving the Southern Ocean Programme from the South African National Committee for Oceanographic (SANCOR) Research to the South African Scientific Committee for Antarctic Research (SASCAR), then the CSIR committee responsible for scientific advice on Antarctic research (1983)."
[768] "BIOMASS was a major international research programme, mainly under the auspices of SCAR and the Special Committee for Oceanic Research (SCOR). Twelve countries participated. Several multi-ship voyages were undertaken. … South African vessels that partook included the S.A.S Protea (10 February – 12 April 1978); the M.V. Agulhas … and the R.S Africana (SIBEX II, 20 February – 23 March 1985)." Miller DGM, (ed.) "SIBEX II: Report of the South African study in the sector (48° - 64°e) of the Southern Ocean," South African National Scientific Programme Report,132, Pretoria: CSIR, 1986. See also Van der Watt op cit note 414 pg. 149.
[769] Van der Watt op cit note 414 pg. 148.

> "South Africa has a long and very successful history of research in this area, with contributions from many experienced, well-published and internationally renowned scientists, several of whom started their careers within the South African National Antarctic Programme (SANAP)."[770]

The present period, since 1994, has seen significant investment in this area. South Africa's unique position straddling the confluence of two oceans, the Atlantic and the Indian, at the precise point where the Southern Ocean circumpolar current interacts with both these oceans,[771] means SA is extremely advantageously placed to conduct significant oceanographic research.[772] This is very well articulated in the Executive Summary of the South African Antarctic and Southern Ocean Research Plan 2014 – 2024 thus:

> "South Africa has a comparative geographic advantage for conducting research in Antarctica and the Southern Ocean. It is the closest African nation to the Austral Polar region, separated from the continent of Antarctica by approximately 4000km of Open Ocean that contains a regionally unique configuration of ocean circulation, making the region key to understanding past, present and future evolution of global climate. South Africa is also the only African nation with a foothold in Antarctica and the Southern Ocean. Within a reconstructed Gondwana Supercontinent, southern Africa shares a common geological history and continental boundary with Dronning Maud Land, Antarctica. Consequently, an understanding of the geological evolution of that sector of Antarctica provides insights into the evolution of southern Africa and vice versa. South Africa therefore bears a regional responsibility and serves as a springboard for broader African scientific research interests in the Antarctic region."[773]

South Africa has, in many respects, been true to this vision and the considerable investment[774] in the SA Agulhas II, delivered in 2012, represented a "significant step forward for the country's potential contributions to Antarctic and sub-Antarctic marine science."[775] The SA Agulhas II has significant research capabilities described by Treasure as "world class facilities," "facilitating state-of-the-art research."[776] Treasure *et al* briefly summarises some of the most important and salient research capabilities of the SA Agulhas II thus:

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[770] Treasure *et al* op cit note 644 pg. 2/4.
[771] Ansorge perfectly captures the uniqueness of South Africa's location, "The distance to Antarctica is the greatest of all southern continents, allowing for a unique configuration of ocean circulation. A transect between Cape Town and Antarctica crosses one of the world's most oceanographically and biologically dynamic regions, encompassing three ocean basins, two major boundary currents and the circumpolar current." Ansorge *et al* op cit note 8 pg. 2.
[772] "Recognition is given to the strategic position of South Africa as a gateway to the south and a major focus is placed on science related to the Southern Ocean, Antarctica and Marion Island" Treasure *et al* op cit note 644 pg. 2/4, referring to the Department of Science and Technology. Innovation towards a knowledge based economy: Ten-year plan for South Africa (2008–2018) c2008. Available from: www.dst.gov.za/.
[773] Skelton PH, The South African Antarctic and Southern Ocean Research Plan 2014 – 2024 The National Research Foundation March 2014, pg. 4.
[774] Treasure *et al* estimate the cost at "over ZAR 1.3 billion". Treasure *et al* op cit note 644 pg. 2/4.
[775] Ibid pg. 1/4.
[776] Ibid.

> "The vessel comes equipped with eight fixed and six removable container laboratories specifically designed for oceanographic, climate change, meteorological, biodiversity, marine geology or geoscience (including deep coring facilities) and marine engineering research. A large hangar door on the side of the ship allows the lowering of deep-water sampling probes and a moon pool can be used for sampling when the ship is working in ice conditions. A drop keel containing transducers for the measurement of plankton density and ocean currents can be lowered through the bottom of the ship to a depth of 3 m below the keel. The ship's stern also has a hydraulic A-frame for towing sampling nets and dredges with an associated research poop deck including laboratory access for sample handling. A specially constructed masthead lookout station facilitates underway observations of seabirds and marine mammals."[777]

The SA Agulhas II has already proven successful both in its logistic and service role, resupplying, annually Gough Island, Marion Island, and SANAE IV as well as, on occasion, as a rescue vessel[778] and in its role as a research vessel. The much-publicised Weddell Sea Expedition 2019's search for the wreck of Shackleton's lost ship, The Endurance, for example, took place aboard the SA Agulhas II.[779] Of course, despite the global publicity, this was an incidental objective; the main purpose was to study the Larsen C Ice Shelf, which had calved the iceberg A68 in 2017.[780] As Prof Dowdeswell, director of the Scott Polar Research Institute, and expedition chief scientist noted,

> "Through the scientific data gathered during the expedition, we have deepened our knowledge and understanding of Antarctic oceanography and ecosystems, and our observations on the glaciology and geology will play a critical role in our understanding of Antarctic ice shelves and sea-ice and, importantly, the changes that are occurring here today."[781]

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[777] Ibid.

[778] For example, in October 2020 the 1,500-ton fishing vessel Geo Searcher, Tristan da Cunha's main fishing vessel which struck a rock and sank off Gough Island. The crew made it safely, by raft and powerboat to Gough Island where they were winched to safety. The SA Agulhas II, dispatched from Cape Town, airlifted all 62 crew from Gough Island. https://www.maritime-executive.com/article/stranded-seafarers-rescued-by-south-african-research-vessel. December 2020.

[779] Amos J, "Endurance: Search for Shackleton's lost ship begins" 11 February 2019. https://www.bbc.com/news/science-environment-47192952. December 2020. The Weddell Sea Expedition 2019 itself describes the SA Agulhas II as "… one of the largest and most modern research ships anywhere in the world, able to break through ice of a metre thick at five knots. Fitted with a wide range of science laboratories and facilities on board, it provides a powerful and effective platform for multi-disciplinary research." https://weddellseaexpedition.org/the-expedition/vessel/. December 2020. Subsequent to the completion of this thesis, in a return expedition to the Weddell Sea in February 2022, again aboard the SA Agulhas II, The Endurance was located, on the 5th March 2022 in 3 000m metres of water. Endurance22. https://endurance22.org/. March 2024. The importance of the role -played by the SA Agulhas II cannot be understated. Fawcett S, The Conversation 6 April 2022. https://theconversation.com/the-south-african-ship-that-found-antarcticas-endurance-wreck-is-vital-for-climate-science-180592. March 2024.

[780] For more information on the Weddell Sea Expedition 2019 see https://weddellseaexpedition.org/the-expedition/. December 2020.

[781] Amos J, "Search for Shackleton's lost Endurance ship called off" 14 February 2019. https://www.bbc.com/news/science-environment-47227657. December 2020.

On its return to the Weddell Sea in 2022 the SA Agulhas II, carrying the Endurance22 expedition, was successful in locating The Endurance, completing, quite possibly, one of the greatest shipwreck discoveries of all time.[782]

However, in practice, the SA Agulhas, as a resource, has been poorly managed and utilised, the split between the management of the scientific component of the SANAP by the DST and the management of the logistical components by the DEA proving to be the main obstacle.

> "However, the division of responsibilities between the DEA and DST, with the DEA being responsible for the costs of the logistics trips to the sub-Antarctic islands and Antarctica and the DST for scientific research, has created unintended consequences. Scientists have complained of limited access to the vessel. They also argue that the vessel spends too much time in port focusing primarily on providing logistical support to Gough Island, Marion Island and Antarctica, to the detriment of scientific research. … Specifically they argue that the vessel's scientific capability allows the country to take the lead in Southern Ocean research … however, the DST has no additional budget for separate voyages for scientific research."[783]

Nonetheless, a considerable amount of South African scientific research in the Southern Ocean has taken place in the present era, both ship based, with the SA Agulhas II and her predecessor the SA Agulhas, as well as terrestrial. South Africa maintains a meteorological station on Gough Island, which it has done continuously since 1956, which is serviced annually with the SA Agulhas II, currently, and previously with the SA Agulhas. These replenishment voyages provide opportunities for ship based oceanographic and meteorological research, and the Gough Island itself provides fertile ground for land based Southern Ocean research. The SANAP team each year, commonly named after the expedition name and number (for example the expedition in 2020 is referred to as Gough 65), usually consists of

> 1 x Medical Orderly
> 1 x Diesel Mechanic
> 1 x Electrical Engineer
> 1 x Communications Engineer
> 1 x Senior Meteorological Technician
> 2 x Meteorological Technicians[784]
> Various scientists conducting research[785]

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[782] "On 5th March 2022 the Endurance22 Expedition, organised and funded by the Falklands Maritime Heritage Trust, located the wreck of Sir Ernest Shackleton's iconic three-masted polar sailing ship, Endurance, which had not been seen since it was crushed by ice in the Weddell Sea in 1915." Endurance: Finding Shackleton's lost ice ship. Falklands Maritime Heritage Trust. Endurance22https://endurance22.org/. May 2024. For more on the role played by the SA Agulhas II see https://endurance22.org/the-vessel. May 2024.
[783] Sidiropoulos & Wheeler op cit note 452 pg. 37.
[784] https://www.sanap.ac.za/expeditions. December 2020.
[785] In recent years (specifically 2020) the Royal Society for the Protection of Birds has launched a programme to protect endangered albatross chicks from predation by invasive alien mice on Gough Island and the South

Gough Island's extremely remote location, almost uninhabited status and its position as a World Heritage site combine to provide significant scientific research opportunities. Indeed, a significant amount of research has been conducted from and on the island by South Africans.

Other areas of research within the broader Southern Ocean context include not only the terrestrial based research at Gough Island, mentioned above, but other islands as well, such as Tristan da Cunha, together with meteorological research, and also oceanographic research, atmospheric research, research into marine ecology, marine living resources – both mammal and other (inter alia fishing and krill), whales and aspects of human interaction and activity, such as education and maritime impacts.

4.6 South African Southern Ocean and Antarctic Policy documents

4.6.1 Antarctic Research Strategy for South Africa (2005)

The Department of Science and Technology (DST), under which the SANAP has been, at least partially, administratively placed since 2003,[786] formulated and published in 2005 an Antarctic Research Strategy for South Africa.[787] Known as ARESSA, this document sought to guide all South African Southern Ocean and Antarctic research.[788]

> "The ARESSA Vision was to:
> - 'Create a demographically balanced Antarctic research programme that strives for high quality international research links to other African countries and interdisciplinary research.'
>
> The ARESSA Mission was to:
> - Establish a national research programme that will produce maximum human capital, innovation and economic growth;
> - Increase South Africa's international profile and influence; and
> - Create a coordinated interactive effort towards public visibility."[789]

ARESSA also set out areas of research focus, or 'Research Themes', namely

- Antarctica a window into Geospace;
- Climate variability, Past, Present and Future;

African team was thus, in 2020 and will be in the following years, accompanied by RSPB conservationists. https://www.rspb.org.uk/our-work/conservation/projects/gough-island-restoration-programme/. December 2020.

[786] SANAP was transferred from the then DEAT to the DST in 2003. However, as Treasure *et al* note, "DEAT retained responsibility for all logistics and infrastructure, including operating the SA Agulhas II." Treasure *et al* op cit note 644 pg. 2/4.

[787] Drafting of ARESSA commenced in 2003. Department of Science and Technology Annual Report 2003. https://www.gov.za/sites/default/files/gcis_document/201409/dst03040.pdf. November 2020.

[788] Skelton op cit note 772 pg. 23.

[789] Ibid.

- Biodiversity responses to Earth System variability;
- Engineering and a sustainable presence in Antarctica; and
- History, Sociology and Politics of Antarctic Expeditions and Research.[790]

ARESSA fitted within the overarching, and somewhat more broadly formulated, National Research and Development Strategy of 2002 which set out the general objectives of the South African government with regard to "innovation, human capital development and the building of an effective government system for science and technology."[791]

4.6.2 10 Year Innovation Plan (2008 – 2018)

In compliance with these broad objectives, the DST, in the broader scientific sphere, formulated a Ten-Year Innovation Plan[792] for 2008 to 2018, for South Africa as a whole to meet areas which it identified as requiring attention.[793] It is under the "Global Climate" challenge that the DST foregrounded the importance of, inter alia, the Southern Ocean and Antarctica as areas of focused research and attention, with the aim of achieving:

> "An internationally recognised centre of excellence focused on the Southern Ocean and its contribution to global change processes.
> Strengthened research and global monitoring capabilities on Marion Island, Antarctica and the Southern Ocean in partnership with other nations."[794]

There is, however, little else in the document that refers either directly or indirectly to any other Antarctic scientific activity.

4.6.3 NRF: SANAP Funding Instrument 2014

The National Research Foundation (NRF), the governmental agency responsible for managing all government funded scientific research[795] and under the auspices of which

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[790] Ibid.
[791] South African Marine and Antarctic Research Strategy, (MARS) Version 4.5, June 2016, pg. 7. https://www.nrf.ac.za/sites/default/files/Marine%20and%20Antarctic%20Research%20Strategy%20Final.pdf. December 2020.
[792] DST (Department of Science and Technology), "Innovation towards a knowledge-based economy: Ten-Year Plan for South Africa (2008–2018)" 2008. http://www.esastap.org.za/download/sa_ten_year_innovation_plan.pdf, November 2020.
[793] These are referred to as "Grand Challenges" and they include "'The Farmer to Pharma' value chain to strengthen the bio-economy …Space science and technology, … Energy security … Global climate change science with a focus on climate change … [and] … Human and social dynamics." DST op cit note 791 pg. v of the Introduction.
[794] DST op cit note 791.
[795] "The National Research Foundation (NRF) was established as an independent government agency, through the National Research Foundation Act (Act No 23 of 1998). The mandate of the NRF is to promote and support research through funding, human resource development and the provision of the necessary research facilities in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including indigenous knowledge, and thereby contribute to the improvement of the quality of life of all South Africans." https://www.nrf.ac.za/. December 2020.

SANAP is placed, released a policy document in respect of the SANAP in 2014.[796] The document aims to

> "…support(s) research in the Southern Ocean, including the islands, and in Antarctica. The SANAP funding instrument is not theme driven, and will support research applications across the following 6 broad scientific / scholarly areas, namely Earth Sciences; Engineering Sciences; Life Sciences; Physical Sciences; Oceanographic Sciences; and the Social Sciences, Law and Humanities."[797]

It provides some useful insights into the philosophy and vision behind the funding of SANAP[798] and the vision and purpose of SANAP itself, viewed from the governmental perspective.[799] At the time of its publication it anticipated the revision of ARESSA and the publication of the South African Antarctic and Southern Ocean Research Plan 2014 – 2024, to which no direct reference was made, the funding instrument adopting an open call for research proposals, instead of a thematic one, in deference to the, then, ongoing revision of the ARESSA research themes. Importantly, the document is also forward thinking with regard to South Africa's potential leadership role when considering the issue of broader African involvement in Antarctica. Sidiropoulos and Wheeler note this important international developmental dimension, stating,

> "The SANAP funding instrument is designed to ensure the creation of a demographically balanced Antarctic research programme focusing on internationally competitive research, and encourages the creation of links with other African countries. Funding can include student support in the form of bursaries, where provision is made for 5% of recipients to be from SADC and 4% from the rest for Africa (another 4% could be non-African)."[800]

This provision is of particular importance in the context of South Africa's foreign policy because Sidiropoulos and Wheeler are of the view that South African foreign policy, in focusing on the African Continent, has simply "not paid enough attention to the surrounding oceans and the landmass to its south."[801] The SANAP Funding Instrument, by making this sort of provision, seems to be a step towards bridging that gap, by bringing South Africa's

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[796] National Research Foundation, (NRF) South African National Antarctic Programme (SANAP) Funding Instrument, Knowledge Fields Development, Framework Document, 2014, https://www.nrf.ac.za/sites/default/files/documents/2015%20SANAP%20Framework%20Document.pdf. December 2020.
[797] Ibid.
[798] The objectives of the funding instrument are described as,
"• To contribute to knowledge production about the Southern Ocean and Antarctica;
• To achieve world-class research and the development of the associated human capacity; and
• To advance or develop paradigms, theories and methodological innovation relating to the Southern Ocean and Antarctica." NRF op cit note 795 pg. 8.
[799] "The SANAP is a long-term funding instrument designed to ensure the creation of a demographically balanced Antarctic research programme that strives for internationally competitive research, promotes inter-disciplinarity and creates links with other African countries." NRF op cit note 795 pg. 7.
[800] Sidiropoulos & Wheeler op cit note 452 pgs. 35-36.
[801] Sidiropoulos & Wheeler op cit note 452 pg. 33.

Africa-centric foreign policy and South Africa's Antarctic interests together, by introducing and supporting African scientific interest in the Southern Ocean and Antarctica.

4.6.4 The South African Antarctic and Southern Ocean Research Plan 2014 – 2024

The DST was, at roughly the same time as it was formulating its broader scientific research policies and plans, also engaged in the process of developing a national strategy or research plan specifically focused on the Southern Ocean and Antarctica. However, this took significantly longer than anticipated. Treasure *et al* reference some of the delays[802] in the development thereof, not least of which was a temporary focus on the Square Kilometre Array telescope (SKA).[803]

Finally published in 2014, The South African Antarctic and Southern Ocean Research Plan 2014 – 2024 (SAASORP) is a comprehensive, honest and thorough document which highlights South Africa's unique geographical advantages as well as the constraints on South Africa achieving its full potential in Southern Ocean and Antarctic research. The plan also sets out areas of research focus, referred to as 'Research Themes', the foci of which are "determined by current scientific strengths as well as the perceived future strengths and national requirements in South Africa."[804] The 'Research Themes' include

Research Theme 1: Earth Systems
(i) Space Science in Antarctica: A Window into Geospace
(ii) The Southern Ocean in the Coupled Ocean – Atmosphere, Climate and Earth System
(iii) Large Scale Ocean Circulation and Global Climate
(iv) Solid Earth Antarctica: Views on Earth Evolution

Research Theme 2: Living Systems
(i) Ecosystem functioning and the response to Global Change
(ii) Biodiversity conservation and sustainable development
(iii) Biodiscovery and biotechnology

Research Theme 3: Human Enterprise
(i) Geopolitics, international and national law and policy
(ii) Human history and archaeology
(iii) Arts, architecture and literature
(iv) Social adaptation

[802] "DST aimed to have an Antarctic strategy and research plan implemented by 31 March 2013, following an envisaged planned approval by 31 March 2011. However, the approval was not achieved and the process was halted to prioritise the work of the Astronomy Desk. The DST Annual Performance Plan (2012–2013) indicates that planned approval of the Antarctic research strategy has been pushed to 30 June 2014." Treasure *et al* op cit note 644 pg. 3/4.
[803] https://www.skatelescope.org/. December 2020.
[804] Skelton op cit note 772 pg. 6.

Research Theme 4: Innovation: Southern Ocean and Antarctic technology and engineering

(i) Construction
(ii) Communications
(iii) Energy management and generation
(iv) Infrastructure design, research and evaluation
(v) Robotic platforms
(vi) Supplies management and materials handling
(vii) Waste management
(viii) Security of infrastructure and natural resources
(ix) Research platform design[805]

These areas of focus largely, and wisely, play to South Africa's strengths and represent a detailed cross section of South Africa's activities in the Southern Ocean and Antarctica.

However, the SAASORP also warns that there are several constraints upon the performance of, and the thus the maximum benefit to be derived from, this research. These include:

- Logistic arrangements, which includes both insufficient access to available facilities like the SA Agulhas II as well as no co-ordinated effort to arrange and manage international government – to – government co-operation;

- Major instrumentation, which references the need to maintain, upgrade and develop research infrastructure;

- Technical support, especially engineering support in respect of SANAE IV and financial support on "timescales of longer than one year";

- Communication, including both effective communication between bases, ships and research centres which requires dedicated personnel as dies the SANAP website;

- Co-ordination, which specifically requires an Antarctic research central management and planning hub, and

- Personnel, both the identification of appropriate personnel and the efficient appointment thereof.[806]

4.6.5 South African Marine & Antarctic Research Strategy Version 4.5 2016

[805] Ibid pgs. 6-13. https://www.nrf.ac.za/sites/default/files/Antarctic%20and%20Southern%20Ocean%20Research%20Plan.pdf.
[806] For a more detailed discussion of these constraints, (summarised and paraphrased above) see pages 5 and 6 of the South African Antarctic and Southern Ocean Research Plan 2014 – 2024. https://www.nrf.ac.za/sites/default/files/Antarctic%20and%20Southern%20Ocean%20Research%20Plan.pdf.

The SAASORP did not translate directly into official government strategy however, but formed the basis, together with strategies developed in parallel with regard to South Africa's marine interests, of the South African Marine and Antarctic Research Strategy (MARS), version 4.5 of which was released in June 2016. This document, published by the DSI, in collaboration with the DEA ironically, in seeking to bring together various interests, highlights the biggest internal challenge presently facing the SANAP. MARS is based on both the SAASORP of the DSI as well as the marine policy developed by the DEA. It thus conflates South Africa's Southern Ocean and Antarctic policy with South Africa's Marine policy, and thus encapsulates the strange position that SANAP finds itself in, namely its reliance on two different departments for the fulfilment of its needs. Indeed, the MARS document unintentionally acknowledges the uneasy juxtaposition of these two interests, broadly speaking research and exploitation,[807] noting

> "… there exist two key ambitions with respect to South Africa's marine and Antarctic environments: the first, deriving from the [National Research And Development Strategy] NRDS, is to maximise the benefit of this strategic geographic advantage to South African research and science, and the second, deriving from the NDP and Operation Phakisa, is to increase and maximise the socio-economic benefits derived from the oceans."[808]

Of course, the drive to "maximise the socio-economic benefits" with respect to "the oceans" excludes Antarctica (as it by law must) but it does significantly impact upon SANAP's Southern Ocean research policy. Unfortunately, the document itself is neither consistent nor always clear and does lapse into contradictory and sometimes ill-advised comment, such as the inclusion of "Antarctica as a possible future source of fossil fuels and other strategic minerals"[809] and the seemingly inconsistent expressed desire to exploit the marine resources around the PEIs while at the same time acknowledging that

> "The islands also fall within the CCAMLR area, and are globally important breeding sites for several marine top predators, which South Africa has undertaken to conserve as part of its international obligations."[810]

A recurring theme in these strategy documents is the identification of "research themes" and MARS does not disappoint, setting out 5 such themes:

> *Oceans and marine ecosystems under global change*

[807] MARS specifically states that "four key priority areas were identified: marine transport and manufacturing; offshore oil and gas exploration; fisheries and aquaculture; and marine protection and governance" with the view to "unlock the potential of South Africa's oceans to contribute to national economic development." South African Marine and Antarctic Research Strategy, (MARS) Version 4.5, June 2016, pg. 9. https://www.nrf.ac.za/sites/default/files/Marine%20and%20Antarctic%20Research%20Strategy%20Final.pdf.
[808] MARS op cit note 806 pg. 8.
[809] The failure to acknowledge the Madrid Protocol moratorium on mineral exploration and exploitation is an unacceptable error, but it is the fact that MARS, under the name of innovation and climate protection, can still contemplate the extraction of fossil fuels that is truly shocking. MARS op cit note 806 pg. 16.
[810] MARS op cit note 806 pg. 17.

• Understanding modes of ocean variability across temporal and spatial scales
• Developing a regional observations network.
• Developing end to end modelling and operational prediction capabilities
• Establishing global, regional and coastal system indicators
• Delivering robust &useful information to society
• Reconstructing past climate changes

Earth Systems Observations
• Usage of South African space science in Antarctica, as a window into geospace
• Understanding the links between ocean atmospheric physics, ocean iron availability, trace element biogeochemistry and ocean productivity
• Understanding large scale ocean circulation and global climate
• Geology of onshore terrestrial Antarctica

Ecosystems, Biodiversity & Biodiscovery
• Understanding scales of biodiversity from molecular to ecosystem
• Understanding the connectivity between terrestrial, coastal and marine systems
• Understanding natural and anthropogenic drivers of change
• Development of capacity in biodiscovery & biotechnology
• Marine Spatial Planning and Marine Protected Area Expansion and Optimisation

Innovation and development
• Sustainable coastal and ocean development: vulnerability, risks and responsibility
• Oil & Gas, Fisheries, Mining and Mariculture
• Energy management
• Development of technology and vessel design
• Development of energy exploration capacity
• Development of links to ecotourism
• Antarctic Waste management

Human Enterprise
• Geopolitics, international and national law and policy;
• Usage of the resource and to develop and refine human History and Palaeosciences;
• Explore from a research perspective the Antarctic arts, architecture and literature;
• Social Adaptation and Human Impact[811]

Clearly, given that MARS is built both upon the NRF-orientated and driven Antarctic and Southern Ocean Research Strategy, as well as South Africa's Marine Strategy, (with the unashamedly exploitative Operation Phakisa as an underlying consideration), not all aspects of the "research themes" are directly or indirectly relevant to Antarctica or even the Southern Ocean. However, there is much to be appreciated in MARS. It represents an attempt to bring together, in one document and under one strategic plan, several different government departments (not only the DST and the DEA, which produced the strategy

[811] MARS op cit note 806 pg. 19.

document, but also the Department of Fisheries, for obvious reasons) which if successful could represent a positive step in removing several of the obstacles and difficulties presently experienced by SANAP in its everyday and ongoing operations. Ansorge *et al* make this point, noting that:

> "MARS aims to consolidate Antarctic and Southern Ocean research efforts by the Department of Environmental Affairs (DEA), Department of Agriculture, Forestry and Fisheries (DAFF) and Department of Science and Technology (DST), while remaining central to the expectations and deliverables emerging from the Operation Phakisa Oceans Economy initiative."[812]

Perhaps, in the broader picture, of even more crucial value, is the fact that MARS itself, quite apart from the additional administrative advantages it may deliver, comprehensively confirms South Africa's commitment to SANAP, Antarctica and the Southern Ocean. As Ansorge *et al* perceptively note,

> "…it is imperative that the scientific community interrogate the need for continued South African involvement in Antarctica and the Southern Ocean. The recently established national Marine Antarctic Research Strategy (MARS) plan achieves just that."[813]

4.6.6 SA Foreign Policy (A Better World: The Diplomacy of Ubuntu White Paper on South Africa's Foreign Policy)

Although not directly focused on Antarctica, South Africa's present position with regard to its broader foreign policy is nonetheless relevant for the insight it provides in respect of where Antarctica is positioned within that broader policy. Sadly, in the present era, and notwithstanding the legislative, financial and other commitments discussed above, the answer appears to be that it does not occupy a position of any significance. Verbitsky notes that "[a]lthough South Africa is a founding member of the Antarctic Treaty, the southernmost continent has played little part in its post-apartheid foreign policy."[814] This is supported by Sidiropoulos and Wheeler who note that "[s]ince the end of apartheid Antarctica has not featured in a political sense in the government's thinking."[815] The authors go on to elaborate with regard, specifically, to foreign policy, to state that "Antarctica does not occupy a significant space in South Africa's foreign policy thinking."[816]

Of course, with the advent of democracy and the transition of government, it was understandable that there were a multitude of pressing issues which took precedence, especially when one considers the significant changes in South Africa's status on an

[812] Ansorge *et al* op cit note 8.
[813] Ibid.
[814] Verbitsky op cit note 603 pg. 195.
[815] Sidiropoulos & Wheeler op cit note 452 pg. 28.
[816] Ibid pg. 33.

international front and the issues facing it domestically.[817] Sidiropoulos and Wheeler note that there were are a number of possible reasons for this, but the most likely explanation was that, in the immediate post-apartheid "foreign policy landscape … South African sought to affirm its African identity, reinsert itself into the global community and tackle substantial socio-economic and political problems."[818]

However, nearly two decades after the advent of democracy, all indications are that the situation with regard to Antarctica and South Africa's foreign policy has not changed significantly:

> "There is no mention of Antarctica in the foreign policy white paper published in 2011 or in the Department of International Relations and Cooperation's (DIRCO) strategic plan 2013–2018."[819]

Indeed, partially as a result of the "loss of the immediate post-apartheid moral stature enjoyed by South Africa"[820] such changes as have occurred in South Africa's broader foreign policy have in fact been for the worse. Verbitsky points out that there is a

> "... relative decline and lesser influence of South Africa in international relations in recent years, and a perceived inability in the Department of International Relations and Cooperation (DIRCO) to prioritize the elements of the country's foreign policy."

Thus, in order to establish where Antarctica fits into South African foreign policy, it is necessary to extrapolate from other policy documents and from what is *not* said in the available foreign policy documents. It has already been noted that the Departments of Environmental Affairs and Science & Technology both make detailed and specific mention of Antarctica, recognising its importance to South Africa and committing significant funding to South Africa's Antarctic interests. However, "the misalignment in communication and purpose between the two government departments"[821] as Treasure *et al* delicately put it, does cause the SANAP significant problems, as has been noted above. This would thus seem to indicate that, although there is a willingness to support and even an enthusiasm for SANAP, this does not extend as far as making deeper and more significant structural

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[817] According to Verbitsky some of these include, inter alia, "… continuing allegations of widespread corruption, including within government; growing inequality in South Africa; high unemployment levels; frustration at the slowness of promised economic change compared to the rapidity with which political change was accomplished in the 1990s; lack of confidence about the future of South Africa in the wake of former President Nelson Mandela's death; and uncertainty about the ability of the ruling African National Congress (ANC) and its leadership to achieve effective governance of the country." Verbitsky op cit note 603 pg.195, referring to Harris M, "ANC's Support Down to 53% Among Eligible Voters" Ipsos, 2014." http://www.politicsweb.co.za/politicsweb/view/politicsweb/en/page71654?oid=507537&sn=Detail; Massiah A, "South Africa Election: Mxit Poll Says Jobs Biggest Issue." BBC News, May 2 2014. http://www.bbc.com/news/world-africa-27236598 and Nkosi M, "South Africa in Post-Nelson Mandela Elections." BBC News, May 7 2014. http://www.bbc.com/news/world-africa-27303636.

[818] Sidiropoulos & Wheeler op cit note 452 pg. 33.

[819] Ibid.

[820] Verbitsky op cit note 603 pg. 198, referring to Spies YK, "South Africa's Multilateral Challenges in a 'Polypolar' World." *The International Spectator: Italian Journal of International Affairs* 2010 45 (4) 73–91.

[821] Treasure *et al* op cit note 644 pg. 3/4.

changes to the way that the various government departments manage it. There is still, for example, no move to create a single and separate "National Research Facility" as suggested by Treasure *et al*[822] although, as will be seen in the most recent policy document, the draft Antarctica and Southern Ocean Strategy (ASOS) of 20 February 2020, released for comment only on the 25th of July 2020, there is evidence that the need to restructure the way SANAP is managed may soon receive attention.[823] Furthermore, it would appear that when competing international matters arise, South Africa's Antarctic interests are not prioritised, but are, rather, put aside, as was evidenced by the Square Kilometre Array, for example.[824] Again, this is indicative of a certain level of commitment to SANAP, but not of a foreign policy which prioritises Antarctica.

However, since 1957, and especially since the negotiation and the implementation of the Antarctic Treaty and the subsequent development of the ATS, South Africa has been at the very kernel of what is recognised as one of the most successful exercises in international law and policy. Indeed, somewhat controversially, South Africa's involvement in the ATS is probably the only aspect of South Africa's international interactions during the apartheid era that remained in place.[825] Thus the absence of any reference to Antarctica in a foreign policy document becomes all the more glaring. Because Antarctica is not mentioned at all, the focus on what is mentioned must be interpreted in the absence of any Antarctic interests. For example, by emphasising that South Africa's foreign policy focus is Afrocentric[826] at a time when no other African country is a signatory to the AT, or to any treaty, protocol or convention in the ATS, it is clear that that South Africa is committing itself to a foreign policy that is aligned with the interests of the only continental bloc that is not substantially Antarctica-aligned.[827] There is no mention, for example, that as part of its

[822] "The present management structure for SANAP across two departments is confusing; one way to make SANAP more effective is to establish it as a National Research Facility (as for the South African Observatory and others). The 'big picture' science planning, essential to achieve DST's Grand Challenges, as is understood and supported in the context of astronomy, is missing." Treasure *et al* op cit note 644 pg. 3/4.
[823] The Draft South Antarctica and Southern Ocean Strategy (Draft ASOS) refers to the proposed creation of a "South African Antarctic Unit". DEA Draft ASOS op cit note 620 page 24.
[824] "DST aimed to have an Antarctic strategy and research plan implemented by 31 March 2013, following an envisaged planned approval by 31 March 2011. However, the approval was not achieved and the process was halted to prioritise the work of the Astronomy Desk. The DST Annual Performance Plan (2012–2013) indicates that planned approval of the Antarctic research strategy has been pushed to 30 June 2014, but no indication of planned implementation of the strategy is given." Treasure *et al* op cit note 644 pg. 3/4.
[825] Verbitsky op cit note 603 pg. 201. "The ATS was one of the few international fora that apartheid South Africa had not been banned from and the government regularly sent representatives to ATCMs throughout this time." See also Dodds op cit note 307 pg. 38.
[826] This appears at several points in the white paper: Building a Better World: The Diplomacy of Ubuntu, op cit note 20. See; South Africa's "evolving international engagement is based on two central tenets, namely: Pan-Africanism and South-South solidarity" at pg. 3; "South Africa therefore accords central importance to our immediate African neighbourhood and continent." at pg. 4; "Since the birth of democratic South Africa in 1994, the country has prioritised an Afro-centric foreign policy rooted in national liberation, the quest for African renewal, and efforts to negate the legacy of colonialism as well as neo-colonialism" at pg. 7; "It draws on the spirit of internationalism, pan-Africanism, South-South solidarity; the rejection of colonialism and other forms of oppression; the quest for the unity and economic, political and social renewal of Africa" at pg. 11 and "Africa is at the centre of South Africa's foreign policy" at pg. 20.
[827] "'Afrocentricity' had become an over-arching principle in South African foreign policy and the 'African agenda' the practical manifestation of the principle. What the African agenda comprises is contested, but has been characterized as a 'strategy through which South Africa wishes to be seen primarily as an integral part of

Afrocentric policy, South Africa will endeavour to utilise its role within the ATS to work towards greater African inclusivity within the ATS.

Even when the policy states that "[s]cientific and technological innovation is a key driver of change, [and that] Developments in the sphere of biotechnology can hold great benefits for humankind through the production of medicines and vaccines",[828] it still fails to reference, for example, Antarctic bioprospecting. In fact, the policy somewhat alarmingly notes: "However, these same innovations can be exploited with malicious intent with potentially destructive consequences."[829]

The critical issue of environmental change is also dealt with without any reference to Antarctica, but with the worrying note that "[e]nvironmental standards are increasingly globalised but tensions exist when the use of environmental measures limits development in the developing world."[830] This is then directly linked to what the policy describes as a "[h]eightened demand for scarce resources."[831] Somewhat simplistically the policy notes that there will be more competition among major powers for resources and that "a growing demand exists for mineral resources as the emerging economies compete with the established industrialised economies."[832] Again, no mention is made of Antarctica, or, to be more specific, of Antarctic mineral resources and/or of the moratorium on the exploitation thereof, to which South Africa is a signatory, which is worrying in the context of the statement that "[t]he raw material supply chain of the 20th century is under pressure to change as demand increases rapidly in Asia and established colonial linkages are challenged by the emerging powers."[833] This seems to imply that South Africa's loyalties with regard to mineral resource supply may no longer lie with the UK, Europe (or the US) but with Asian economies.[834] In view of the fact that there is growing dissatisfaction with, for example, China's expressed interests in Antarctica, which include "… access to … Antarctic minerals,[835]

Africa, its interests inseparable from those of the rest of the continent'" Verbitsky op cit note 603 pg. 197, referring to Bohler-Muller N, "Nuanced Balancing Act: South Africa's National and International Interests and its 'African Agenda'" Occasional Paper No. 120. South African Institute of International Affairs, 2012. Accessed April 15, 2014. http://www.hsrc.ac.za/en/research-outputs/view/6376.

[828] DIRCO op cit note 20 pg. 14.

[829] Ibid.

[830] Ibid pg. 16.

[831] Ibid.

[832] Ibid.

[833] Ibid.

[834] Worryingly, it is the "established colonial linkages" that are opposed to Antarctic mineral exploitation, but, with no other country on the continent bound by the ATS, Africa is not constrained in demanding, or directly attempting, Antarctic mineral exploitation, especially in the name of its own development, which as the policy states should not be denied by the use of globalised environmental standards '\"which limit development in the developing world." Ibid.

[835] The Chinese themselves openly state that this is a Chinese objective. "Researchers from the Polar Research Institute of China (PRIC) estimate that there are 500 billion tons of oil and 300–500 billion tons of natural gas on the Antarctic continent, plus a potential 135 billion tons of oil in the Southern Ocean. In 2009, PRIC staff produced a book-length study investigating the full range of Antarctic mineral resources and their legal status, stating that 'when all the world's resources have been depleted, Antarctica will be a global treasure house of resources'. (Yan Q, Zhu J (eds.), Research on Antarctic sovereignty and resources rights, Kexue jishu xhubanshe, Shanghai, 2009, 183.0.)" Brady A-M, "China's expanding Antarctica interests: implications for Australia" Special report, Australian Strategic Policy Institute, Barton, ACT, 2017, pg. 17.

hydrocarbons, fishing, tourism, transport routes, water and bioprospecting"[836] coupled with China's illegal Antarctic minerals exploration,[837] in direct violation of the Madrid Protocol, a foreign policy document by an Antarctic Treaty founding party which expressly aligns itself with Asian interests and which fails to make any mention of Antarctic governance is of grave concern. This is especially so when, in the policy document, South Africa's membership of multilateral international organisations is dealt with. Here, despite extolling the importance of these institutions and membership thereof, and listing many within which South Africa is active,[838] no mention at all is made of South Africa's membership of the ATS or of its leading role within the ATS.

It is clear therefore that Antarctica, to paraphrase Sidiropoulos and Wheeler, *still* "does not occupy a significant space in South Africa's foreign policy thinking," and that they are correct in concluding that: "Looking northwards to the rest of the African continent and to the East and West, it has not paid enough attention to the surrounding oceans and the landmass to its south.[839] This is unfortunate both because it indicates that South Africa's interests in Antarctica are not being prioritised, but also because it represents a potentially lost opportunity[840] for South Africa to meet many of the goals of global influence, leadership, policy formulation and participation that it aspires to in its White Paper on Foreign Policy.

Firstly, Antarctica is an area of the globe that is becoming increasingly important. As Sidiropoulos and Wheeler point out

> "More and more countries are growing their investment and interest in the Antarctic for both geostrategic and economic reasons. … South Africa thus needs to develop a broader discussion within the government, academia and civil society about the implications of these developments for South Africa's interests."[841]

South Africa is in a unique position to participate in and even lead developments in this area. As Verbitsky notes,

> "There is an opportunity for South Africa to take on a leadership role in foreign affairs that could also address core domestic issues, specifically through robust

[836] Brady op cit note 834, pg. 12.
[837] "China has never stopped exploring Antarctic mineral resources, despite the requirements of the Madrid Protocol. It stepped up its exploration activities from 2012, focusing on a few key areas known to hold significant reserves in order to help China in its bid to gain rights to those resources. The most recent large study, which was conducted from 2012 to 2016, involved hundreds of scientists and social scientists, churned out more than 50 classified reports and included a 'preliminary exploration of mineral resources in Antarctic waters' and 'surveyed coal reserves'. (Zhu J, Yan Q, Ling X, 'Analysis of Antarctic resources, their exploitation, and potential for utilization', Chinese Science 2005, 8:18, 22)." Brady op cit note 834, pg. 19.
[838] For example, the UN, the Bretton Woods Institutions, the WTO Doha Round, the Africa Group, the G77, NAMA 11. the African Union, the African, Caribbean and Pacific Group of States (ACP), the Commonwealth, the NAM, the G20, Major Economies Forum, BASIC, IBSA and BRICS. DIRCO op cit note 20 pgs. 24 -25.
[839] Sidiropoulos & Wheeler op cit note 452 pg. 33.
[840] "…vigorous engagement with Antarctica and Antarctic politics represents an unparalleled opportunity and means for South Africa to … assert leadership in an increasingly important area of global politics." Verbitsky op cit note 603 pg. 195.
[841] Sidiropoulos & Wheeler op cit note 452 pgs. 33 – 34.

> political engagement in southern polar politics and the capital funding that could be generated through the use of the Antarctic commons. That opportunity lies in South Africa's founding state membership of the Antarctic Treaty 1959 and its Consultative Party status in the Antarctic Treaty System (ATS)."[842]

Furthermore, the concept of 'science diplomacy', for example, affords South Africa an opportunity to genuinely develop its global influence. As Sidiropoulos and Wheeler note:

> "Science diplomacy should not be underestimated as a tool of 'soft power' and the building of international esteem/profile. … However, science diplomacy needs to be embedded in a broader foreign policy strategy for it to have an impact beyond the science field."[843]

Of course, the most important opportunity, and one which South Africa is ideally placed to take both because of its history of Antarctic involvement and its unique position on the African continent, is the protection of Antarctica itself.

> "Antarctica is the last pristine environment on our planet, from which we can learn much about the history of the earth, as well as climate change. While there is much discussion about resource exploitation, the longer-term goals should ideally be the continent's preservation in the interests of the founding principles of the Treaty – peace and science, and the subsequent environmental protocol. South Africa should thus implement both a pragmatic and a long-term vision for Antarctica that is linked to the advancement of a sustainable global commons. In this, truly international scientific collaboration is critical."[844]

It seems that South Africa is, possibly, slowly coming to terms with some of these opportunities, with the Minister of Science and Technology noting, in 2012, that the

> "…growing importance of the science content of critical foreign policy issues has necessitated that the South African government pursue a concerted science diplomacy strategy."[845]

However, the minister, notwithstanding reference to a number of South African scientific programmes, inexplicably, given that the Antarctic Treaty to all intents and purposes created the concept of scientific diplomacy, fails to mention SANAP, or Antarctica, at all in

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[842] Verbitsky op cit note 603 pg. 196. Verbitsky goes on to identify two areas of potential change within the ATS which she feels should be the focal points of South Africa's foreign policy engagement with Antarctica, namely "firstly, greater democratization of the ATS governance system and, secondly, the introduction of a governance regime for bioprospecting of living resources in Antarctic waters." Verbitsky op cit note 603 pg. 196.

[843] Sidiropoulos & Wheeler op cit note 452 pgs. 33–34.

[844] Ibid.

[845] Pandor N, "South African Science Diplomacy: Fostering Global Partnerships and Advancing the African Agenda" Science & Diplomacy 2012 1 (1). https://www.sciencediplomacy.org/perspective/2012/south-african-science-diplomacy. December 2020.

her paper. Clearly the absence of any reference to Antarctica in any significant foreign policy document has translated into a forgetfulness about Antarctica in a scientific context, which is a worrying concern for what it says about where Antarctica ranks in South African governmental circles.

4.6.7 Draft Antarctica and Southern Ocean Strategy (ASOS) 2020

In July 2020 the Department of Environmental Affairs gazetted a draft Antarctic and Southern Ocean Strategy document, calling for comments:

> "The Department of Environment, Forestry and Fisheries has embarked on a process of developing the Antarctic and Southern Ocean Strategy (ASOS), a policy under the auspices of the Antarctic Treaties Act, 1996 (Act No. 60 of 1996). The process commenced in 2017/2018 where the draft ASOS was prepared in consultation with relevant stakeholders guided by the Project Steering Committee constituted by officials from the then Departments of Environmental Affairs; Agriculture, Forestry and Fisheries; Science and Technology; and International Relations and Cooperation. The draft ASOS outlines South Africa's strategic national interests, articulates a national vision for our engagement in Antarctica and the Southern Oceans, and describes specific national strategic objectives. Some of these strategic objectives include:
>
> 1) Custodial responsibility to ensure the Treaty is functional;
> 2) Optimise use of our geographic positioning and proximity to Antarctica to serve as a vibrant Antarctic sector that serves economic interests, scientific endeavour and environmental management;
> 3) Antarctica and the Southern Ocean play a definitive role in the weather and climate patterns world-wide, and South Africa is well positioned to play a leading role in Southern Ocean and Antarctic science; and 4) Antarctica and the Southern Ocean are special outdoor laboratories that are used to study and understand natural processes and present opportunities to study / research a number of pressing questions in the field of health, agriculture (extremophiles), oceanographic, drought (i.e. glaciology) and geological sciences."[846]

The document was formulated in conjunction with numerous Antarctic stakeholders and claims to be South Africa's "first formal Antarctica and Southern Ocean Strategy (ASOS)."[847] It acknowledges South Africa's rich historical involvement, describes its present involvement and recognises the vital importance of South Africa's continuing involvement in the future, by seeking to build on the past and present to not only set certain objectives, but to develop a concrete (not abstract) strategy by which the infrastructure and mechanisms can be put in place to achieve these objectives.

[846] Staatskoerant, 24 Julie 2020 No. 43542 pg. 23. Government Notice No. 804 24 July 2020. Department of Environment, Forestry and Fisheries, Consultation on the Draft Antarctic and Southern Ocean Strategy.
[847] DEA Draft ASOS op cit note 620 pg. 4.

The draft attempts, mostly successfully, to link and balance South Africa's "strategic national interests,"[848] with "a national vision[849] for … engagement in Antarctica and the Southern Oceans,"[850] and to set "specific national strategic objectives"[851] which are aligned with the objective of the Antarctic Treaty Act 1996.[852] The link is articulated as an overarching goal, which is

> "To provide for the effective coordination and implementation of the Antarctic Treaty system provisions in South Africa relating to research, conservation, sustainable resource use and environmental management; and in support of the African agenda."[853]

Of course, a lot depends on precisely what the government sees as being South Africa's "strategic national interests" and in this regard the draft ASOS sets out that South Africa's national interest is "for continued investment and participation in Antarctica and the Southern Ocean."[854] This is broken down into a number of areas of national interest and responsibility which include:

> "4.1.1 … a responsibility to uphold and influence the evolution of the legal and institutional frameworks of the Antarctic Treaty System [and] custodial responsibilities arising out of her stewardship of the Antarctic environment as well as her presence in the contiguous Queen Maud Land and the Southern Ocean.
> 4.1.2 … a vibrant Antarctic sector that serves economic interests, scientific endeavour and environmental management [including managing] Antarctica and the Southern Ocean's unique marine and terrestrial resources that can be sustainably utilised to address food security, health, energy and biotechnology needs … [and] … an opportunity to serve as a gateway to the continent.[855]
> 4.1.3 … to play a leading role in Southern Ocean and Antarctic science … [especially] … to contribute to the global research effort on the impact of

[848] Ibid.
[849] This national vision is set out in paragraph 4.2 of the strategy; "Antarctica and the Southern Ocean are understood, valued, and protected in the interest of South Africa, Africa and the world." Ibid pg. 17.
[850] Ibid pg. 4.
[851] Ibid.
[852] Discussed in detail earlier in this chapter. There is no specifically labeled 'Objective' in the Antarctic Treaties Act 60 of 1996, however it is clear from the preamble (also not specifically named such) that it is to "To provide for the application of certain treaties relating to Antarctica." In other words, the objective is to incorporate the ATS into South African domestic law. This is done by section 3 which states that "the treaties mentioned in Schedule I shall form part of the law of the Republic." Antarctic Treaties Act 60 of 1996. The treaties listed in Schedule I are "I Antarctic Treaty, II Protocol on Environmental Protection to the Antarctic Treaty, III Convention for the Conservation of Antarctic Seals and IV Convention on the Conservation of Antarctic Marine Living Resources."
[853] DEA Draft ASOS op cit note 620 pg. 17.
[854] Ibid pg. 16.
[855] The ASOS notes that "At present there are ten other Antarctic National Programme that launch their Antarctica and island expeditions from South Africa." Ibid.

climate change on Antarctica and the Southern Oceans [and] strengthening our predictive weather and climate capabilities,

4.1.4 … an opportunity to conduct research of disparate phenomena in various disciplines, including space science, health, meteorology, oceanography, marine resources management, glaciology, geology, agriculture and research of various engineering disciplines.[856]

Although none of these areas of interest come as a surprise, or are particularly original, it is reassuring that the draft Strategy remains true to at least these core, or fundamental, principles of Antarctic involvement.

In this regard ASOS represents an important, in fact vital, step towards directing South Africa's Antarctic and Southern Ocean future involvement. However, as it is in its draft and comment stages, it is not yet in operation,[857] but it nevertheless does provide some insight into the direction that some significant South African policy development and implementation is heading. The implications of this will, however, be the subject of the next chapter dealing with the role that South Africa can, and should, play in the future of Antarctica.

4.7 Policy implementation

While there are a considerable number of policies, white papers, plans and position documents[858] in existence, the success, or otherwise, of South Africa's true commitment to developing sub-Antarctic, Southern Ocean and Antarctic research to date is really measured in the practical manner in which it has gone about achieving these policy goals. In this regard the "on the ground" implementation has not been perfect. It is true, as is evidenced by the discussions on these three main areas (the PEIs, the Southern Ocean and Antarctica), that South Africa has committed considerable capital investment to these areas, especially with regard to infrastructural development. It is also true that, from a policy point of view, South Africa's intentions with regard to scientific research are on the right track as well. South Africa's commitment, at a jurisprudential level, both to the letter and spirit of the ATS, as well as in its internal legislative processes, is also not in doubt.

However, from an administrative point of view, there have been serious shortcomings. The unusual manner in which responsibilities for the SANAP are shared is still problematic. As Sidiropoulos and Wheeler note:

[856] DEA Draft ASOS op cit note 620 pgs. 16-17.
[857] At the time of writing.
[858] With regard to the general scientific research framework alone, in addition to the Ten-year Innovation Plan and the other, more recent, documents discussed in this chapter, see also the White Paper on Science and Technology (1996), the National Research and Technology Foresight (2000) and the National Research and Development Strategy (2002).

> "…the division of responsibilities between the DEA and DST, with the DEA being responsible for the costs of the logistics trips to the sub-Antarctic islands and Antarctica and the DST for scientific research, has created unintended consequences."[859]

This has, of course, resulted in several problems, and potential problems. These have, largely, been articulated from within the system. The SANAP Funding Instrument, discussed above, points out that South Africa

> "…runs the risk of not fully utilising or maximising the benefits from this geographic advantage, owing to a lack of adequate human capital. This includes the risk that the country may own research platforms and facilities, but could be subject to a form of 'knowledge colonization' from international quarters, many of whom already possess a critical mass of skills."[860]

In addition, as noted above, Treasure *et al* have highlighted precisely how this has impacted upon the use, or to be more accurate, the lack of use of the SA Agulhas. The SA Agulhas is designed to be used for both logistic support and scientific research but, as Treasure *et al* note,

> "Scientific research, as was the case in the past, is frequently regarded as an activity adjunct to logistical support. Securing ship time both during and outside of logistic voyages is difficult, thus restricting potential marine research."[861]

The main, annual, logistic voyages are to Gough Island, Marion Island and Antarctica, but the vessel is completely underutilised in the periods between these voyages. Treasure *et al* point out that, by way of example, in 2012-2013 the SA Agulhas spent only 154 days at sea while in comparison, the Australian, British and German vessels spent between 7 and 9 months at sea over the same period. In addition, when not in use by the countries' respective Antarctic programmes, the vessels were contracted out.[862] This underutilisation is not a reflection of a lack of demand, but rather a lack of efficient management and organisation. As Treasure *et al* point out, "... the older SA Agulhas was commissioned by scientists from various research groups for a 2012–2013 summer voyage to Antarctica to continue the collection of observations for long-term data sets."[863] Initially articulated by large number of respected scientists in 2013 in the South African Journal of Science,[864] this criticism was echoed in the SA Antarctic and SO Research Plan of 2014.[865]

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[859] Sidiropoulos & Wheeler op cit note 452 pg. 38.
[860] NRF, South African National Antarctic Programme (SANAP) Funding Instrument, Knowledge Fields Development, Framework Document, April 2014, p. 7, http://www.nrf.ac.za/sites/default/files/documents/2015%20SANAP%20Framework%20Document.pdf.
[861] Treasure *et al* op cit note 644 pg. 2/4.
[862] Treasure *et al* provide details; The Aurora Australis had a 7 month Antarctic schedule, the BAS vessels had between 7 and 9 month schedules and the Polarstern spent 90% of the year at sea. Treasure *et al* op cit note 644 pg. 2/4.
[863] Ibid.
[864] Ibid.
[865] Skelton op cit note 772 pgs. 5 and 24.

Of course, these are not the only serious problems caused by this, nor indeed are they the only serious challenges facing SANAP. Coupled with this already fractured approach is the fact that it is the Department of International Relations and Cooperation (DIRCO) that represents South Africa at the ATCMs. This means that a third government department (a fourth if one includes the Department of Defence's logistical involvement) is critically involved in SANAP and South Africa's role in Antarctica. As discussed above, South Africa's current foreign policy is in many respects short-sighted and incomplete, and it is a matter of serious concern that South Africa's Antarctic interests are seemingly not of great importance to DIRCO.[866]

This is a glaring oversight and quite apart from the negative impact on SANAP in that DIRCO, which represents it at ATCMs, is clearly not up to the task, it clearly illustrates the disjuncture caused by the fractured approach to the management of South Africa's broader Antarctic and Southern Ocean interests.[867] Sidiropoulos & Wheeler note, in this regard, the potential lost opportunities on the international stage that this domestic confusion could result in, as well as the fact that South Africa is at risk of losing ground at an influential level if a more cohesive approach, foregrounding South Africa's Antarctic and Southern Ocean involvement, isn't forthcoming.[868]

Notwithstanding these issues, South Africa maintains a respected presence in Antarctica, the Southern Ocean and on the sub-Antarctic islands. Scientific research projects in which South Africa, or South African scientists, are presently involved include:

"Dr KE Altieri,	Biogeochemical controls on the sources and chemical composition of Southern Ocean marine aerosols
Prof IJ Ansorge,	SAMOC-SA
Prof IJ Ansorge,	SEAmester – South Africa's Class Afloat
Prof A Bekker,	Decision aiding for the SA Agulhas II through modelling, monitoring and data capture
Dr MA Connan,	Small Procellariiformes as indicators of ecosystem changes and plastic pollution
Prof DA Cowan,	Microbial diversity, functionality and resilience in Antarctic terrestrial niche communities

[866] Sidiropoulos and Wheeler point out that "There is no mention of Antarctica in the foreign policy white paper published in 2011 or in the Department of International Relations and Cooperation's (DIRCO) strategic plan 2013–2018." Sidiropoulos & Wheeler op cit note 452 pg. 33.
[867] The manner in which the South African delegation, comprised mostly of staff from DIRCO, to the 45th ACTM 2023 in Helsinki elected to remain seated alongside Russia, the only other Consultative Party that remained seated in what would otherwise have been a unanimous standing ovation for the speech delivered by Finnish-Ecuadorian environmental activist Helena Gualinga decrying climate change threats to the environment, is a perfect example of this. Walters T, No More Mister Ice Guys: Russia, SA fail to take a climate stand at top Antarctic meeting in Finland, Daily Maverick – Our Burning Planet, 1 June 2023. https://www.dailymaverick.co.za/article/2023-06-01-no-more-mister-ice-guys-russia-sa-fail-to-take-a-climate-stand-at-top-antarctic-meeting-in-finland/. July 2023.
[868] Sidiropoulos & Wheeler op cit note 452 pg. 33.

Prof PJN De Bruyn,	Marion Island Marine Mammals: Individual Variation and Population Processes in Changing Environments
DR SE Fawcett,	A nitrogen cycle view of atmospheric CO2 sequestration in the Antarctic Ocean
Dr S Fietz,	Shifts in phytoplankton and microbial community composition and functional diversity related to trace metal cycling in the Southern Ocean
Dr GH Grantham,	Gondwana Amalgamation and Correlation Research Project
Dr M Greve,	Invasions in the changing sub-Antarctic
Prof CI Hofmeyr,	Southern Oceanic Humanities
Prof MJ Kosch,	SANAE HF radar
Dr PC Le Roux,	Modelling wind patterns and their ecological impacts
Dr SI Lotz,	Polar Space Weather Studies (PSWS)
Dr AB Makhado,	Bottom-up and top-down control of seabirds of the Southern Ocean: implications for conservation
Dr TP Makhalanyane,	Disentangling the role of chemolithoautotrophs in the sequestration of atmospheric CO2
Dr PMS Monteiro,	How storm characteristics in the Southern Ocean influence inter annual variability of CO2 fluxes
Dr TN Mtshali,	Seasonal evolution of biogeochemical Fe cycle in the Southern Ocean
Prof W Nel,	Landscape and climate interactions in the sub-Antarctic
DR S Nicholson,	The role of storms in shaping upper ocean physics and primary production in the Southern Ocean
Ms MP Olivier,	Preserving and promoting the Antarctic Legacy of South Africa
Dr PA Pistorius,	Southern Indian Ocean Top Predators: linking ecology, oceanography and marine spatial planning needs
Prof CJC Reason,	Southern Ocean influences on Western Cape Drought and Flood Events
Prof AN Roychoudhury,	Distribution and Speciation of Bioactive Trace Elements in Southern Ocean
Prof L Sievers,	Observing Dawn in the Cosmos
Dr RD Strauss,	Living with cosmic radiation
Dr SJ Thomalla,	An improved understanding of the climate sensitivity of the Southern Ocean's biological carbon pump
Prof B van Vuuren,	Biocomplexity: Understanding biological patterns in space and time."[869]

Furthermore, the Marine and Southern Ocean Research strategy (MARS), discussed above, recognises the need for and sets out the first steps towards addressing the disjuncture caused by the fractured governmental approach to the management of all aspects of South Africa's Antarctic involvement.[870] In addition, ongoing scientific research capacitation and

[869] https://www.sanap.ac.za/explore/research. December 2020.
[870] "MARS aims to consolidate Antarctic and Southern Ocean research efforts by the DEA, DAFF and DST." Ansorge *et al* op cit note 8.

development continues. The CSIR has developed and deployed, as part of the CSIR's Marine Robotics programme, "the first robotics platform in the Southern Ocean that combines both wave and buoyancy-driven seagliders."[871] This falls under the auspices of the CSIR's Southern Ocean Carbon & Climate Observatory (SOCCO), a recently formed[872] scientific programme created in order to support and fulfil aspects of the MARS strategy discussed above.[873]

In addition, initiatives like the SEAmester Class Afloat,[874] initiated, developed and run by Dr Isabelle Ansorge and Tahlia Henry and which was established in 2016, has proved to be very successful, both in its contribution to scientific research and also, through its training and development of young scientists, in directly addressing some of the shortcomings identified by the SANAP Funding Instrument, namely that South Africa

> "…runs the risk of not fully utilizing or maximizing the benefits from this geographic advantage, owing to a lack of adequate human capital. This includes the risk that that the country may own research platforms and facilities, but could be subject to a form of "knowledge colonization" from international quarters, many of whom already possess a critical mass of requisite skills."[875]

There are also many other positive aspects that can be gleaned from the multiplicity of policy documents, programmes and research initiatives mentioned above. The SANAP Funding Instrument, for example, "encourages the creation of links with other African

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[871] CSIR Deploys First Integrated Robotics Platform in the Southern Ocean, October 21, 2013, https://www.csir.co.za/csir-deploys-first-integrated-robotics-platform-southern-ocean. January 2021. This is a pioneering programme, and has been "… implemented in partnership with the National Oceanic and Atmospheric Administration Pacific Marine Environmental Laboratory and the Applied Physics Laboratory at the University of Washington in the United States of America; and locally, Sea Technology Services, the South African Maritime Safety Association and the South African National Antarctic Programme." https://www.csir.co.za/csir-deploys-first-integrated-robotics-platform-southern-ocean. January 2021.

[872] The SOCCO programme was initiated Dr Pedro Monteiro in 2012. CSIR https://www.csir.co.za/ocean-robots-and-global-climate-modelling-soccby o%E2%80%99s-future. January 2021.

[873] According to Prof Monteiro the purpose of programme is to study the link between the Southern Ocean and climate adopting a twofold approach. "First, we want to understand how ocean physics affects carbon dioxide (CO2) exchange between the ocean and atmosphere. Second, we want to understand the effect of biological activity on carbon – how primary production plays a role in carbon uptake, and how that influences the carbon cycle." CSIR https://www.csir.co.za/ocean-robots-and-global-climate-modelling-soccby o%E2%80%99s-future. January 2021. SOCCO describes itself as "… a South African born science programme, in support of the Global Change Grand Challenge and the Marine and Antarctic Research Strategy. It aims to use the challenging problems in the role of the Southern Ocean in 21st century regional and global climate to attract excellent young South Africans to acquire advanced numerical, technological and problem analysis skills in support of a transformed knowledge based economy. It also aims to build partnerships with local and international leaders to strengthen South Africa's impact as a global citizen with clear commitment to ocean and climate stewardship." http://socco.org.za/about/. January 2021.

[874] "SEAmester was established in 2016. … The objective of the cruise is to encourage interaction between young South African scientists, lecturers and field specialists in a hands-on, practical environment on board the SA Agulhas II." University of Cape Town, Oceanography. http://www.sea.uct.ac.za/Seamester. January 2021. For more detail see, Ansorge IJ, Brundrit G, Brundrit J, Dorrington R, Fawcett S, Gamon D, *et al.* "SEAmester – South Africa's first class afloat" *South African Journal of Science* 2016 112 (9/10), Art. #a0171.

[875] NRF, South African National Antarctic Programme (SANAP) Funding Instrument, Knowledge Fields Development, Framework Document, April 2014, p. 7, http://www.nrf.ac.za/sites/default/files/documents/2015%20SANAP%20Framework%20Document.pdf. January 2021.

countries."[876] This is particularly important in the context of the discussion above about South Africa's foreign policy which prioritises an Afrocentric approach and fails to mention Antarctica at all. It is the SANAP Funding Instrument, by making this sort of provision (and not the foreign policy white paper), that seems to be taking the initiative towards bridging that gap, by bringing South Africa's Afrocentric foreign policy and South Africa's Antarctic interests together.

Finally, the DEA's draft ASOS, published for public comment in July 2020, provides a glimpse of the steps that are afoot to address many of the aforementioned concerns, and to provide a comprehensive blueprint to strengthen South Africa's commitment to Antarctica. References to, inter alia "improv[ing] infrastructure functioning to optimise operations,"[877] "the expansion of South Africa's National Antarctic Programme,"[878] "emphasizing South Africa's commitment to sustainable polar research" and "promot[ing] infrastructural development that will enhance participation of the African continent in Antarctic activities,"[879] are all very encouraging signs with regards to South Africa's future in Antarctica.

Even more encouraging are the references to the proposed development of an institutional infrastructure[880] designed to prioritise SANAP's interests and provide the long awaited and much needed "unified structure"[881] that has been so notably absent in South Africa's management of SANAP throughout the present era. ASOS specifically envisages that this structure, comprised primarily by staff already employed by the DET, will provide "[e]ffective leadership and co-ordination [and] dedicated capacity,"[882] and will "coordinate and cooperate with other Antarctica and Southern Ocean Stakeholders."[883] Its mandate will be to "advance South Africa's strategic, scientific, and environmental interests in Antarctica and the Southern Ocean [and] … it would also be charged with maintaining our presence in Antarctica and the sub-Antarctic islands."[884]

4.8 Conclusion

[876] "Funding can include student support in the form of bursaries, where provision is made for 5% of recipients to be from SADC and 4% from the rest for Africa (another 4% could be non-African)." Sidiropoulos & Wheeler op cit note 452 pgs. 35-36.
[877] DEA Draft ASOS op cit note 620 pg. 21.
[878] Ibid.
[879] Ibid.
[880] "Effective coordination and cooperation among the responsible South African government departments and with key stakeholders is key. The following institutional arrangements are proposed for optimal and effective co-operation and co-ordination:
 The Antarctic and Southern Ocean Forum
 The Antarctic and Southern Ocean Technical Committee." DEA Draft ASOS op cit note 620 pg. 22. Further details about the proposed structure of the Antarctica and Southern Ocean Forum (ASOF) and the Antarctic and Southern Ocean Technical Committee (ASOTC) can be found on pages 22-24 of the Draft ASOS.
[881] The South African Antarctic Unit. Ibid pg. 24.
[882] Ibid.
[883] Ibid.
[884] Ibid.

While the period immediately post the advent of democracy may have initially raised concerns about South Africa's commitment to Antarctica, the period 1995 to present has, if anything, reaffirmed and strengthened South Africa's commitment to all spheres of its Antarctic involvement – the PEIs, its Southern Ocean involvement and on the Antarctic continent itself. South Africa has adopted a proactive pro-Antarctica policy of engagement and has made significant and ongoing financial commitments in all areas of its Antarctic endeavours. The opening of SANAE IV in 1997, the implementation of the Prince Edward Islands Management Plan, the ratification of The Madrid Protocol in 1995, the expansion of Cape Town's role as an Antarctic gateway (including tourism), the commissioning of the state of the art SA Agulhas in 2012, the building of a new Marion Island Base (opened in 2011) and ongoing commitment to the protection of the PEIs, including the declaration of South Africa's first offshore MPA, The PEI Marine Protected Area all paint a positive picture of increased interest, involvement, and most importantly, commitment.

There are, and remain, areas of concern, but these are well ventilated and are incrementally receiving attention. The SA Agulhas II is, for example becoming more widely used, and publicly so, witness the Wedell Sea expeditions that eventually located The Endurance. The establishment in 2021 of the SAPRI also heralds a positive move in addressing Antarctic research management, coordination and support while numerous policy documents and funding instruments – the Antarctic Research Strategy for South Africa (2005), the 10 Year Innovation Plan (2008 – 2018), the NRF: SANAP Funding Instrument (2014), the South African Antarctic and Southern Ocean Research Plan (2014 – 2024), the South African Marine & Antarctic Research Strategy Version 4.5 (2016) and the Antarctica and Southern Ocean Strategy (2023) all attest to this ongoing positive commitment. The question then is, what should South Africa be doing with this committed involvement. The next chapter will suggest one possible role that South Africa could play.

Chapter 5 South Africa's role in Antarctica: a decolonial approach

5.1 Introduction

No system of governance that is overtly or inherently colonial can claim to be legitimate. The two concepts are inextricably linked in the sense that the trapping of colonialism undermine the integrity and legitimacy of the structures and authority of the systems that they pervade. The undemocratic, even anti-democratic nature of colonialism, the control and exploitation of resources, (to which the "colonial" party has no exclusive right), the elitist nature of colonialist governance and its exclusionary nature, including exclusion from participation, decision-making and benefit sharing, are all trappings of colonialism that find specific and unique reference in the ATS and will be discussed below. The ATS actively sustains "colonial" structures and constructs, for example, territorial claims and it prevents Global South nations from influencing Antarctic environmental governance. It follows therefore, that a system shot through with these, and other, issues cannot be construed as normatively legitimate.

Questioning the legitimacy of the ATS is not a new phenomenon.[885] As we have seen, within 20 years of its creation the ATS was subjected to significant criticism in the United Nations General Assembly, (the so called "Question of Antarctica"),[886] which was ongoing for a period of over 20 years, with regard to the legitimacy of the ATS as a form of Antarctic government. While it overcame this concerted challenge to its legitimacy, this was due, largely, to the implementation of a total ban on mineral exploitation in Antarctica,[887] thereby removing from contestation the most significant cause[888] of the criticism, namely the appropriation to themselves by the ATS Consultative Parties (in particular those claiming sovereignty) of, if not ownership, then certainly control of Antarctica's mineral resources. However, the actual flaws in the system were not sufficiently addressed, although there was

[885] On legitimacy generally see Yermakova op cit note 18; Stokke and Vidas, Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System, (described by Yermakova in her Doctoral Dissertation at pg. 32 as "... an extremely valuable resource for those interested in the legitimacy of the ATS." Yermakova op cit note 18) and Vanstappen op cit note 1, pgs. 4-34. See also Flamm, P "Legitimating the Antarctic Treaty System: from rich nations club to planetary ecological democracy?" *Australian Journal of International Affairs* 2022 76 (3) 266–285; Gardiner, NB, Gilbert, N, Liggett, D & Bode, M "Measuring the performance of Antarctic Treaty decision-making" *Conservation Biology* 202539 (1):e14349. doi: 10.1111/cobi.14349. Epub 2024 Aug 20; Barrett, J "International Governance of the Antarctic – Participation, Transparency, and Legitimacy" *Yearbook of Polar Law* 2015 7 (1) 448-500; and Hemmings, AD "The functional exclusion of Least Developed Countries from the Antarctic regime" *The Polar Journal*, 2022 12 (1) 88–107.

[886] "United Nations members from the G77 bloc sponsored a debate that raised questions over the legitimacy of the ATS, arguing that it comprised a closed 'club' of states who, at that time, were seeking to conclude an Antarctic minerals regime that only they would benefit from." Rothwell op cit note 7 pg. 9.

[887] The rejection of CRAMRA and the replacement thereof with the Madrid Protocol.

[888] In addition to the question of control of and access to mineral resources there was the secondary issue of apartheid South Africa's membership of the ATS. Once mineral exploitation was banned, this secondary issue did not survive alone, although the mineral ban coincided with the release from prison of Nelson Mandela, heralding a significant change in South Africa's political landscape.

a slight relaxation in the elitist nature of the ATS,[889] and the fault lines uncovered by the Question of Antarctica still remain. Questions around the legitimacy of the ATS as a form of government include issues about the, allegedly, elitist, internationally unrepresentative, inherently undemocratic and colonial nature of the ATS as a system of government. These were well illustrated by the Question of Antarctica and although the immediate threat occasioned by the Question of Antarctica has passed, the "fix" was a superficial one and the underlying criticisms remain.

5.2 The legitimacy of the ATS

The term "legitimacy" itself is capable of a myriad of subtle variations in interpretation and there are several aspects to it. Normative legitimacy concerns the ethical or moral justification of an institution's legitimacy, evaluating whether it ought to be considered legitimate based on certain values or principles, while descriptive legitimacy simply focuses on whether the authority of a system or institution is perceived to be legitimate and accepted as such. There are several ways of assessing this. Scharpf introduced the notion of input legitimacy which focused on assessing the inclusivity and participatory nature of a particular decision-making processes,[890] while others, for example Schmidt, focus on the internal governance processes of a system or institution, looking at, inter alia, procedural fairness, transparency, and accountability, which is referred to as throughput legitimacy.[891] From a pragmatic perspective, that of this thesis, the crucial consideration is, however, the legitimacy of the outcomes of a process or system, known as output legitimacy. An opaque, exclusionary, system (poor input and low throughput legitimacy) that produces a successful outcome (high output legitimacy) may nonetheless enjoy a high degree of normative legitimacy, and may even be described as legitimate.

These frameworks can be, and have been used in evaluating the legitimacy of the (ATS). By examining who participates in ATCMs, namely a small group of ATCPs who control the decision-making process (input legitimacy), the fairness and transparency of processes (throughput legitimacy), and the effectiveness of the decisions and outcomes (output legitimacy), one is able to assess both the perceived (descriptive) and ethical (normative) legitimacy of the ATS. Held, for example, believes that for a system to be considered legitimate its governance structures must be democratically accountable and representative of those affected by their decisions.[892]

There has, however, not been a large focus on an academic analysis of the legitimacy of the ATS and, as Yermakova notes in her excellent PhD dissertation on the legitimacy of the ATS

[889] Consultative Party status was fast-tracked for some countries seen as significant threats if excluded, for example China.
[890] Scharpf, FW *Governing in Europe: Effective and Democratic?* Oxford, Oxford University Press, 1999.
[891] Schmidt, VA "Democracy and legitimacy in the European Union revisited: Input, output and 'throughput'" *Political Studies* 2013 61 (1) 2-22.
[892] Held, D *Democracy and the Global Order: From the Modern State to Cosmopolitan Governance* Berkeley, Stanford University Press, 1995.

"... literature on legitimacy on the international level is still incipient."[893] She considers all these variations in interpretation but settles on assessing the normative legitimacy of the ATS using, as a basis (which she develops and expands upon), a theory of legitimacy developed by Buchanan and Keohane.

> "Buchanan and Keohane's account, if an institution is legitimate, 'one has a reason to comply regardless of any positive assessment of the content of that rule'; that is, there are content-independent reasons to follow the rules. ... If one has moral reasons to support an institution, the institution is regarded as an authority and one agrees to follow the rules. Thus, the higher degree of legitimacy of the ATS is, meaning the more moral reasons we have to support it, the more we should expect compliance with the regime's rules even if the content of those rules is not judged good or useful by those to whom the rules apply."[894]

Vanstappen adopts a similar approach,

> "More concrete conceptions of legitimacy vary widely across authors and disciplines. One general distinction, however, is the distinction between its normative and its sociological meaning. Sociologically, legitimacy refers to the extent to which actors subject to the authority of certain institutions perceive these institutions to exercise justified authority. This is the conception employed by Max Weber and can also be termed 'descriptive legitimacy'. Normatively, legitimacy refers to whether institutions have justified authority on the basis of abstract, normative principles. In the words of Meyer and Sanklecha, 'the normative sense of legitimacy deals with whether this belief [that an institution is legitimate] is correct – that is whether that norm or institutional arrangement satisfies certain specified conditions for possessing legitimacy.'"[895]

However, in assessing the normative legitimacy of the ATS, Vanstappen focuses on procedural or input legitimacy,[896] although clearly here, procedural legitimacy is synonymous with throughput legitimacy. In this Vanstappen is following the views of Franck who states that "Legitimacy is that attribute of a rule which conduces to the belief that it is fair because it was made and is applied in accordance with 'right process.'"[897]

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[893] Yermakova op cit note 18 pg. 28. Yermakova provides a short list of some relevant texts including : Tasioulas, "The Legitimacy of International Law", Christiano, "Democratic Legitimacy and International Institutions"; Bodansky, "The Legitimacy of International Governance : A Coming Challenge for International Environmental Law ?"; Follesdal, "Survey Article: The Legitimacy of International Courts" and Franck, T. (1990). The Power of Legitimacy Among Nations, Oxford, Oxford University Press." See also Buchanan, A, *Justice, Legitimacy, and Self-Determination: Moral Foundations for International Law*, Oxford, Oxford University Press 2004 and especially Held, D, *Democracy and the Global Order: From the Modern State to Cosmopolitan Governance*, Berkley, Stanford University Press, 1995.

[894] Ibid.

[895] Vanstappen op cit note 1 pg. 6.

[896] "There are two main school of thought in the debate about alternative and additional bases for the legitimacy of international law: the procedural and instrumentalist traditions. Other authors employ different terminology – namely input and output legitimacy – to mark the same distinction. The instrumentalist or output legitimacy tradition considers the ability of the institution to deliver upon its objectives to be fundamental in assessing its legitimacy." Vanstappen op cit note 1 pg. 7.

[897] Franck T, *Fairness in International Law and Institutions*, Oxford, Clarendon Press, 1998, pg. 26.

Both Vanstappen and Yermakova conclude that the ATS lacks legitimacy. Vanstappen chose two aspects of procedural (throughput) legitimacy – participation in decision-making and the use of scientific evidence as a basis for decision-making – as measures[898] and finds that in both areas the ATS is deficient. He notes in particular that the severe limitations on participation in decision-making should be addressed, suggesting that;

> "This perception of Antarctica as a region of global interest undoubtedly affects the normative framework relating to participation in the Antarctic; as all states are affected and/or concerned by issues of a global nature, participation should be designed in such a way that all states' views are represented (if not through direct participation, through regional representation or otherwise)."[899]

Yermakova, measuring the legitimacy of the ATS against the criteria she selected,[900] concludes that: "Appraising the ATS against the criteria discussed above suggests that it is indeed time to reform some aspects of the ATS."[901]

Whether assessing legitimacy normatively or descriptively, or even sociologically, as per Stokke and Vidas,[902] in examining input, throughput/procedural and output legitimacy, a number of relevant component factors, inter alia, unrepresentativity, elitism, an undemocratic nature and colonialism, can be extracted. These are not discrete factors but overlap, are complementary and operate separately and together in their negative impact on the ATS's legitimacy. All need to be dismantled to some extent. A deficiency in each area individually and in all areas collectively, it will be argued, have an adverse impact on legitimacy.

Vanstappen, referencing Frank, notes that "The procedural or input legitimacy tradition, on the other hand, assesses the legitimacy of institutions based on the manner in which they adopt decisions (in particular whether this has been done in accordance with 'the right process')." Vanstappen op cit note 1 pg. 7.

[898] "This paper identifies two important procedural criteria that are widely recognized. Firstly, all relevant actors should be able to participate in decision-making. Secondly, decision-making should be based on the best scientific evidence available. The choice for these two criteria does not detract from the value of other normative principles of procedural legitimacy, such as transparency, (Jill Barrett, "International Governance of the Antarctic–Participation, Transparency and Legitimacy" 2015 7 *The Yearbook of Polar Law Online* 448.) the possibility to oppose the adoption of certain rules, or the mechanisms of decision-making (unanimity, consensus, majority, and so on). The selection of the principles of participation and evidence-based decision-making is, however, grounded in their central role in Antarctic governance." Vanstappen op cit note 1 pg. 8.

[899] Ibid pg. 23.

[900] "(1) The minimal moral acceptability criterion requires that the institution avoids violation of most widely recognised basic human rights.
(2) The comparative benefit criterion requires that the institution provides benefits otherwise not obtainable (to the extent that it is possible to measure this provision), measured using the RBM tools.
(3) The institutional integrity criterion requires that the institution's goals are in alliance with its actual performance (what the institution manages to achieve) and procedures (how the institution seeks to achieve them).
(4) The accountability criterion requires that the institution is transparent, and open to external contestation and revisability." Yermakova op cit note 11 pg. 355.

[901] Ibid pg. 345.

[902] Essentially, social legitimacy refers to the extent to which an institution is accepted by its intended audience. With regard to the ATS this, in a narrow sense, refers to the ATS Consultative and non-Consultative Parties and, in a broader sense, the international community.

These components will be discussed below.

5.3 The AT: A colonial relic?

5.3.1 Unrepresentative and elitist by nature and design

These two terms, at first glance appear synonymous but, certainly in the context of the ATS, they have distinct, though related, meanings. An unrepresentative system is one where decision-making power is concentrated among a select group of states, failing to reflect the diversity of the international community. As a result, decisions and policies may not consider the needs or perspectives of all stakeholders, particularly those from marginalised or less influential regions. Elitism in international law, and specifically with regard to the ATS, refers to the dominance of a small, select, group of powerful states in the shaping of legal norms and policy, often in their own interests. This can marginalise less powerful nations and perpetuate existing power imbalances, leading to questions about the fairness and legitimacy of the system. In other words, a system is unrepresentative if it does not reflect the international community in its membership and it is elitist if it is controlled, or if entry thereto is controlled, by a select group of powerful or influential nations. Of course, an elitist system is inherently unrepresentative, but an unrepresentative system may not necessarily be elitist. The ATS, it is argued however, is both.

While considerable mileage is made out of the fact that ATS membership represents a significant part of the world's population – by overall percentage, the US National Science Foundation for example, claims that "[t]he 56 Antarctic Treaty nations represent about two-thirds of the world's human population."[903] this is not the complete picture. At least a third is unrepresented and this third is not confined to a third of the world's countries. There are currently 193 member states of the United Nations.[904] Of these only 58 are members of the ATS. Of these 58 only 29 have met the threshold to be voting members.[905] The populations of 162 countries thus have no say whatsoever in the governance of Antarctica.[906] It is undeniably, internationally unrepresentative.

> "As it stands, the Antarctic Treaty System may seem perfectly fine for those who are already members, and especially for Consultative Parties entitled to shape the rules around the last uninhabited continent. It is questionable, however, whether a self-

[903] A further 2 nations have since joined the ATS. https://www.nsf.gov/geo/opp/antarct/anttrty.jsp#:~:text=The%2056%20Antarctic%20Treaty%20nations,they%20have%20been%20held%20annually. March 2024.
[904] https://www.un.org/en/about-us/member-states. March 2024.
[905] https://www.ats.aq/devAS/Parties?lang=e. May 2021.
[906] As Yermakova summarises it: "... the future of Antarctica is decided by this group of Consultative Parties, which consists of less than one sixth of the world's nations." Yermakova op cit note 18 pg. 3. See also Hemmings op cit note 884.

appointed system where three-quarters of the world states are not members can be deemed fair."[907]

This is compounded by the regional distribution of membership. As mentioned earlier, the financial hurdle of acceding to the ATS not only creates a perception of elitism, but also translates into regional unrepresentativity. Every country in Africa, barring South Africa, for example, is unrepresented. This has the concomitant effect that the ATS represents the views (and thus interests) of a very limited number of nations. Certainly, at the inception of the AT, these were primarily the decision-making powers of Europe and America, or states under their influence, like Australia and New Zealand. This has expanded to include significant Asian influence, but again, while 'significant' in terms of population (India and China), relatively few Asian countries are voting members.[908] This regional lack of representation is even more stark in Africa where only one state of the 54 UN member states in Africa[909] is a member. The largest regional group in the United Nations is thus almost entirely unrepresented. One of the risks that this unrepresentativity poses to the ATS is simply that states are not bound by treaties to which they are not parties and thus the substantial majority of the world's nations are not bound to honour any ATS regulations, recommendations, decisions or directives and may, in theory, operate in Antarctica and the Southern Ocean in any way that they seem fit[910] – constrained only by other international laws that may overlap with the ATS (the prohibition on whaling being an example.)[911] Non-compliance is not only directly physically damaging to Antarctica itself but as Vanstappen makes emphatically clear, "Legal scholars have argued that a lack of compliance with international institutions' rules could pose a serious threat to these institutions' legitimacy."[912]

As Yermakova notes,

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[907] Mancilla A "The Moral Limits of Territorial Claims in Antarctica." *Ethics & International Affairs* 2018, 32 (3) pgs. 339–60. https://doi.org/10.1017/S0892679418000527, pgs. 354-355. See also Hemmings op cit note 884.

[908] Japan 1961, South Korea 1986, China 1983 and India 1983. https://www.ats.aq/devAS/Parties?lang=e#:~:text=Seventeen%20of%20the%20acceding%20countries,nine%20Consultative%20Parties%20in%20all. March 2024. No Asian state has acceded to the ATS as a Consultative Party in almost 40 years.

[909] United Nations: Department for General Assembly and Conference Management. https://www.un.org/dgacm/en/content/regional-groups. March 2024.

[910] For example, as Yermakova points out, "…the Protocol does nothing to prevent third-party nations, non-signatory states to the Protocol, to engage in mining." quoting Ward JJ "Black Gold in a White Wilderness - Antarctic Oil: The Past, Present, and Potential of a Region in need of Sovereign Environmental Stewardship." *Journal of Land Use & Environmental Law* 1998, 13 (2) pgs. 363–97. Yermakova op cit note 18 pg. 24.

[911] "The Antarctic Treaty, the Protocol, or the ATCM Recommendations do not create binding obligations for third states, i.e., those who are not a party to the Treaty." And "... parties can only encourage compliance from third states, but they cannot enforce compliance, since, in theory, ATS rules only apply to signatory states." Ibid pg. 58.

[912] Vanstappen op cit note 1 pg. 4 quoting Churchill, R "The Persisting Problem of Non-Compliance with the Law of the Sea Convention: Disorder in the Oceans" *International Journal of Marine and Coastal Law* 2012 27 813. Hemming also makes this point. Hemming op cit note 884.

> "It is actually in the ATS's interests to encourage wider participation. To quote Barrett: 'To safeguard Antarctica against major risks of the future, such as a surge in unregulated activities by non-State actors from States outside the ATS, or Treaty Parties deciding to leave the Treaty or Protocol, more States need to be attracted into the ATS, especially from Africa and the Middle East which are particularly underrepresented.'"[913]

This unrepresentativity is compounded by the fact that the ATS is perceived as being elitist and exclusionary by nature. It is elitist in the sense that it is the rich and powerful nations who are voting members. The whole of the P5[914] are veto-holding Consultative Parties for example, and so an expansion in membership including having more members from less politically and economically powerful state groups and/or regions would counter the elitist make up of the ATS. Coupled with this elitism is the power that the existing Consultative Parties have to control accession to the ATS. It is exclusionary in the sense that those who are in make it very hard for others to join.

Therefore, despite the accession to the ATS of a number of states immediately prior to and as a consequence of the Q of A, the criticism that the ATS is an elitist organisation remains, and remains valid. The number of states that are among the "elite" may have increased but all matters concerning Antarctic governance are still decided by only a handful of the world's countries, 29 to be precise.[915] Dudeney and Walton, for example state that

> "We conclude that at present the Treaty remains effectively a select club dominated by the claimant nations and the Cold War warriors (USA and Russia), and that the return on the investment in Antarctic activities in terms of significant science or political initiatives seem lacking for several countries."[916]

A lot of credence must be given to the argument that the ATS is not readily open to accession and that its high economic threshold for membership creates a closed clique that excludes poorer countries.[917] In order to accede to the ATS, a country must conduct substantial research activity in Antarctica.[918] This is extremely expensive to achieve and places full ATS membership well beyond the financial capabilities of most of the developing world.[919] Indeed, since 1961 only seventeen countries have acceded to full Consultative

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[913] Yermakova op cit note 18 pg. 66, quoting Barrett, op cit note 897 pg.161.
[914] "P5" refers to the permanent members of the United Nations Security Council.
[915] Secretariat of the Antarctic Treaty. https://www.ats.aq/devAS/Parties?lang=e#:~:text=Seventeen%20of%20the%20acceding%20countries,nine%20Consultative%20Parties%20in%20all. March 2024.
[916] Dudeney & Walton op cit note 11 pgs. 8–9.
[917] "Given its location and climatic conditions, conducting research on Antarctica is expensive. This requirement effectively prohibits developing countries from voting on Antarctic issues, since they cannot meet the monetary demand inherent in Consultative party status." Grob op cit note 12 pg. 469.
[918] Hopefuls must "…demonstrate their interest in Antarctica by 'conducting substantial research activity there'." Secretariat of the Antarctic Treaty. https://www.ats.aq/devAS/Parties?lang=e#:~:text=Seventeen%20of%20the%20acceding%20countries,nine%20Consultative%20Parties%20in%20all. March 2024.
[919] In fact, this high entry fee is arguably itself colonialist in nature. "Scientific research in Antarctica did not come cheaply and many countries in the Third World simply could not afford to build expensive scientific bases

Party status.[920] This, of course, is not a criticism of the philosophy that to engage in the decision-making process that affects a continent, a thorough engagement with scientific research in relation to that continent's needs is a reasonable and sensible prerequisite[921] (although nonetheless susceptible to unprincipled political interference), but this does not detract from the fact that the ATS is perceived to be elitist.

Both these faults have negative impacts on the legitimacy of the ATS. Held believes that it is crucial that institutions accurately reflect the diverse interests and identities of the populations they serve in order for them to be considered legitimate and that elitist systems where decision-making is concentrated among a select few, often lead to a "democratic deficit".[922]

5.3.2 Undemocratic in function

An undemocratic international law system lacks mechanisms for inclusive and participatory decision-making, often sidelining the voices of less powerful nations. There is, however, some uniqueness in the ATS position in that, at a relatively simplistic level this is not true in the sense that even the least powerful CP in the ATS has the power of a veto as a result of the consensus making decision making process. However, at a broader level it is true, as argued above, in that 162 countries do not even have a vote at all.

It flows, therefore, that if a system is not representative of the international community, not one member of which is unaffected by what happens in Antarctica from an environmental, climate perspective, then the method by which voting occurs with respect to the decision-making process is inherently undemocratic. While an argument can be made for a "qualified franchise" dependent on scientific knowledge crucial to informed decision-

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in Antarctica in order to win a place at Antarctica's political table. In a similar fashion to the way the British and other colonial powers used economic influence as a way of maintaining political influence in many former colonial powers, in Antarctica their chosen tool was science." Howkins A "Appropriating Space: Antarctic Imperialism and the Mentality of Settler Colonialism" in Mar TB & Edmonds P (eds) Making Settler Colonial Space, London, Palgrave Macmillan, 2010, pg. 47, quoted in Yermakova op cit note 18 pg. 96.

[920] "Seventeen of the acceding countries have had their activities in Antarctica recognized according to this provision" namely through the demonstration of substantial research activity in Antarctica. Secretariat of the Antarctic Treaty, https://www.ats.aq/devAS/Parties?lang=e#:~:text=Seventeen%20of%20the%20acceding%20countries,nine%20Consultative%20Parties%20in%20all. March 2024.

[921] Vanstappen summarises this position thus: "The Antarctic Treaty Consultative Parties, in response, attempted to justify participation being conditional on the exercise of 'substantial scientific activity.' They argued that 'participation in Antarctic affairs requires experience with the continent' and that 'the problems associated with the Antarctic continent cannot be appreciated realistically without substantial scientific activity in Antarctica'. (This argument has been summarized by Chopra as follows: 'While it is desirable that more states be encouraged to become full members of the treaty system, it is equally important that the qualification clause be retained. Keeping the qualification clause will ensure safer and more meaningful activity for new states. To this effect a systematic effort on the part of the treaty powers is needed to help train scientific personnel of the countries which have expressed an interest in Antarctica.' See Chopra SK "Antarctica in the United Nations: Rethinking the Problems and Prospects" *American Society of International Law Proceedings*, 1986, 80, pg. 275.)" Vanstappen op cit note 1 pg. 22.

[922] Hemmings op cit note 884 pg. 89 and Held, D *Democracy and the Global Order: From the Modern State to Cosmopolitan Governance*, Berkeley, Stanford University Press 1995.

making, where the threshold of such a qualification precludes participation on an economic basis, there can be no justification in the modern geopolitical climate for such prejudice. Effectively, 29 economically capable countries have appropriated to themselves the right to decide on Antarctic issues which have an impact on every country in the world.[923] That this includes active issues such as access to natural resources and possible mineral resource exploitation, not just passive issues like the effects of climate change, makes the argument for democratic participation more compelling – or if not democratic participation, then certainly not undemocratic exclusion. Again, the issue is not whether such a regime can be justified - I believe it cannot, but whether, in its present guise, it has the potential to create an impression amongst the excluded, as it has done in the past, that it lacks legitimacy because it is broadly undemocratic. Yermakova if of the view that it is inherently undemocratic and that this must change,

> "To transition toward a more just path, democratization of the ATS is the way forward. Institutions should reflect the changing environment and be able to revise their procedures and revise to whom they are accountable. A transition toward a more just regime calls for the ATS to be more representative and inclusive."[924]

She notes also that apart from being inherently unjust as a result of being undemocratic, the stark reality is that the undemocratic manner of decision-making within the ATS also damages its legitimacy. "If the procedures undermine the pursuit of the founding goals, then the legitimacy of the institution should be called into question."[925]
Brady summarises the issue thus,

> "Antarctic governance clearly needs to democratise and efforts to achieve this have so far been too little, and too late. The means to solving the problem is to make it easier for more concerned nations to participate in Antarctica, thereby bringing about a true 'post-colonial Antarctica'. Antarctica must be governed in the interests of all humankind. Recognising this necessitates opening up participation in Antarctic governance to all the nations of the world."[926]

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[923] "The Antarctic regime has, from inception, drawn its membership globally rather than regionally and makes universal claims for its purposes, its globalised benefits and, implicitly, its potential membership. Antarctica as place, as perceived opportunity, as perceived duty, and in relation to its governance, is manifestly a global issue notwithstanding its geographical regionality. So, the ATS is a 'global regional' regime, and part of its task is creating a stable framework within which global interests may be accommodated, and within which there are real possibilities of responding to major global imperatives with clear Antarctic connections." Hemmings op cit note 884 pg.89.
[924] Yermakova op cit note 18 pg. 122. In this she is supported by Held, who advocates for cosmopolitan democracy, emphasising that democratic legitimacy must transcend national boundaries, incorporating multiple layers of governance that reflect the diverse and interconnected nature of global society. Held, D *Democracy and the Global Order: From the Modern State to Cosmopolitan Governance* Berkeley, Stanford University Press 1995.
[925] Yermakova op cit note 18 pg. 43.
[926] Brady A-M "Opinion: democratising Antarctic governance" *The Polar Journal* 2012 2 (2) pgs. 451-461, pg.460.

Neither Yermakova nor Brady, define "democracy", however the term is almost universally understood to mean representative governance, in particular where decision making is by majority.[927]

In this regard, from a global perspective, the ATS is quite obviously undemocratic in that it does not involve the whole global population in the governance of the Antarctic but, in an unusual sense, even if the argument is made that all *eligible* members may participate (and vote) then, even at an internal level it is also undemocratic. The consensus mode of decision making adopted throughout the ATS means, in essence, that any one CP can veto any decision of the ATCM. Significant important policy and governance issues can thus be determined and decided by one party alone – not by the majority. In other words, a veto is inherently undemocratic as it sidelines the views of the vast majority thereby resulting in an outcome that does not reflect the will or interests of the majority of the parties. Thus, at this level, the ATS is also inherently undemocratic. For example, 28 CPs voted for the introduction of protective measures for the seriously endangered Emperor Penguins. China refused to agree and thus no protective measures were adopted.[928] This is a perfect example of one individual member dictating the decision and thus the resulting policy. The vast majority – 28 other members – voted in favour, but, unlike in a genuine democracy, the minority view prevailed. This absence of democratic processes can lead to perceptions of illegitimacy, as decisions may not reflect the will or interests of all affected parties.

5.3.3 Colonial in essence

The history of colonialism will not be examined here, suffice it to say that the processes by which certain nations laid claim to huge swathes of territory around the globe, unoccupied, sparsely occupied or even densely occupied, and often by violent subjugation is no longer considered an acceptable manner of conducting international relations. Antarctica was never inhabited and thus the parallel with the rampant colonialism of the 18th and 19th centuries is, arguably, incomplete. However, latent claims to sovereignty over huge tracts of the Antarctic continent have imbued the ATS with a distinctly colonial feel. Some

[927] "a system of government by the whole population or all the eligible members of a state, typically through elected representatives ... control of an organization or group by the majority of its members." Oxford English Dictionary, https://www.oed.com/dictionary/democracy_n?tab=factsheet#7093302. March 2025, and "democracy: government by the people, especially : rule of the majority" https://www.merriam-webster.com/dictionary/democracy#:~:text=1-,a,involving%20periodically%20held%20free%20elections. March 2025.

[928] Amos, J "Climate change: Thousands of penguins die in Antarctic ice breakup" 24 August 2023, https://www.bbc.com/news/science-environment-66492767. March 2025. Fretwell PT, Aude Boutet, A & Ratcliffe, N "Record low 2022 Antarctic sea ice led to catastrophic breeding failure of emperor penguins" *Communications Earth & Environment* 2023 4 273 1-6. See also Walters T "Going against the Floe: Revealed – Why China blocked an Antarctic penguin rescue plan" Dailey Maverick, 7 June 2022, https://www.dailymaverick.co.za/article/2022-06-07-revealed-why-china-blocked-an-antarctic-penguin-rescue-plan/ March 2025.

scholars even refer to the period in which this occurred as "the Imperialist Era".[929] Indeed the methods of "annexation" - landing men on remote beaches (or ice floes) bearing flags, proclaiming ownership of the continent or part thereof for their country, king, queen or relevant religious figurehead and the reasons, or rather justifications, advanced for such claims mirror the western colonial patterns of imperialist exploitation. And, as with colonialism, it is at the expense of the poorer, less developed or weaker nations. The patterns of exclusion in Antarctic participation, certainly with regard to Africa for example, mirror the patterns of colonial exploitation on the African continent. If a colonial international law system is one that perpetuates these ideologies, often maintaining the dominant position of the original colonising powers and often reinforcing historical inequalities then, in this sense, the ATS can indeed be said to actively sustain "colonial" structures and constructs.

It is thus no longer debated about whether the ATS is latently colonialist or not, but really only the degree to which it has been imbued the colonialist tradition and the extent to which this continues to adversely affect its operation and legitimacy.

While some argue that the Antarctic Treaty is inherently colonial, in the manner in which it exclusively concentrated total control of a continent in the hands of a few nations, [930] the origins actually go back much further, to the origins of human interaction with the continent.

As Yermakova, quoting Howkins, notes,

> "Antarctica has been part of the colonial legacy since the first territorial claims and the regime that followed, and the fact that it had no indigenous population does not detract from this legacy. Rather, the mentality of settler colonialism is embedded in the origins of the Antarctic regime: "Antarctica epitomises the elitist, racist and exclusionary mentality of the settler colonial project. 'The Great White South' offered imperialists all the glory of empire without the messy reality of having to rule over colonial peoples.'"[931]

This view is echoed by other scholars, with Machowski stating :

> "To Antarctica, therefore, has turned now the attention of the governments of imperialistic powers which began a bloodless but unrelenting struggle for the domination over this last part of the world still belonging to nobody."[932]

[929] Elliott op cit note 55 pg. 25.
[930] Yermakova op cit note 18 pg. 70 quoting Mancilla, A "Decolonising Antarctica" in Bunikowski, D & Hemmings, AD (eds.), Philosophies of Polar Law, Oxfordshire, Routledge, 2020. "Mancilla argues that the origins of the ATS were colonial in Ypi's sense because of the exclusivity of the regime's initial stages that left most of the international community out." See also, generally, Hemmings op cit note 884.
[931] Yermakova op cit note 18 pgs. 69-70, quoting Howkins op cit note 918 pg. 31.
[932] Machowski, J *The Status Of Antarctica in the Light of International Law*, Warsaw, Office of Polar Programs and the National Science Foundation, 1977, pp.13-14, quoted in Yermakova op cit note 18 pg. 85.

Humankind's initial interaction with Antarctica was one of resource exploitation and securing resources for exploitation was a driving force behind the colonisation of territory. In Antarctica this did not commence with the pre-emptive claiming of territory once exploration revealed the possibility of minerals, but in the resources of the Southern Ocean. The protection and control of their whaling interests underly both British and Norwegian early claims to territory in the Southern Ocean and Antarctica.

Shortly after the end of the First World War, in fact as early as 1919, Britain commenced a programme of attempting to colonise the whole of the Antarctica.

> "In 1919 the British politician Leo Amery wrote on behalf of the British Government to the Governors General of Australia and New Zealand proposing that the British Empire should adopt a policy of territorial claims that would bring the whole of Antarctica under the control of the Empire."[933]

Britain's claims from this period, portions of which it assigned to Australia and New Zealand, did not, eventually, encompass the whole continent but do account for the vast majority of the territory claimed in Antarctica.

The period leading up to the negotiation of the Antarctic Treaty caused several nations to exhibit renewed interests in Antarctica. Howkins identifies this as another stage in the colonisation of Antarctica.

> "Adrian Howkins presents the pre-IGY of 1957-58 in Antarctica as the British settler colonial project, with New Zealand, Australia, and Norway 'mimicking' the British mentality, while Argentina, Chile, and France expressed their interests in Antarctica in opposition to United Kingdom."[934]

The IPY/IGY famously provided the impetus, and the membership criterion , for the formulation of the Antarctic Treaty and thus Dodds is also correct in noting that the Antarctic Treaty "rewarded colonial appropriation."[935]

Perhaps the best approach is to regard Antarctica as being subject to a continuous, ongoing and still extant process of colonialisation. The Antarctic Treaty can be seen as a colonial instrument and the ATS as a colonial system of governance that protects territorial claims, financial interests in the management and exploitation of resources and control over all decision-making by concentrating power in the hands of a small, unrepresentative elite. Scott certainly makes out a case for this, as summarised by Yermakova,

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[933] Dudeney & Walton op cit note 11, pg. 5. See further, Dudeney & Walton op cit 433.
[934] Yermakova op cit note 18 pg. 90, referring to Howkins op cit note 918.
[935] Dodds KJ "Post-Colonial Antarctica: An Emerging Engagement." *Polar Record* 2006, 42 (1) pgs. 59–70. https://doi.org/10.1017/S0032247405004857, pg. 63. Yermakova notes that "Dodds argues that Britain, New Zealand, Australia, Chile, Argentina, and possibly the United States, had engaged in imperial behaviour in Antarctica." Yermakova op cit note 18 pg. 91.

> "International law and Antarctic expert, Shirley Scott, suggests that the Antarctic Treaty itself was a third wave of Antarctic colonialism, following the previous waves. The first one was the fifteenth century division of the world between Spain and Portugal. The second wave was that of British Antarctic imperialism when the European states were concerned with who owned the Antarctic in the manner of the nineteenth century scramble for Africa, and the South American states were concerned with how to delimit the mutual boundary."[936]

This being the case, the argument for the decolonisation of Antarctica is all the more unanswerable.

5.4 Formal decolonisation: possible South African interventions

If South Africa is true to its ATS commitments and, acting according to the best scientific evidence available, seeks to be proactive in the protection of Antarctica's environmental future, there are several steps that it could and should take that would enhance the legitimacy of the ATS, thereby strengthening the ability and capacity of the ATS to address the many challenges facing Antarctica, which would be to the benefit of Antarctica, South Africa and indeed Africa. All aspects of this threefold beneficiation are interrelated, in the sense that whatever benefits the African continent as a whole, benefits South Africa, as a country located in Africa, in the same way that whatever benefits the ATS, also benefits SA, as a member thereof. However, this situation is relatively unique. No other country presently involved in Antarctica is the sole representative of its continent, and so the benefits that could accrue to South Africa go beyond what it can contribute to Africa. These would include the benefits that would accrue directly to South Africa due to its role in Antarctica, and they would also include the benefits that would accrue to South Africa by virtue of it playing a leading geopolitical role in both the advancement of Antarctica's environmental protection, generally, and in the expansion of the ATS's membership and legitimacy. In other words, South Africa would both reap the benefits of an expanded, more representative and thus stronger ATS, as well as the credit for contributing to this, in addition to enhancing its reputation in Africa.

This rest of this chapter will suggest steps that South Africa can take and contributions that it can make that (i) will raise awareness and support for the preservation of Antarctica in Africa, (ii) will be to the benefit of the African continent as a whole, (iii) will contribute positively to the well-being of the ATS, where "well-being" is understood to mean the decolonisation and thus legitimisation of the ATS, thereby strengthening it to enable it to respond positively to challenges facing the protection of Antarctica's environmental future, and (iv) will also bolster its own reputation in Antarctica.

[936] Scott, SV "Ingenious and Innocuous? Article IV of the Antarctic Treaty as Imperialism," *The Polar Journal* 2011 1 (1) 51-62 at pg.56. Yermakova op cit note 18 pg. 91.

South Africa's unique position as the only African state in the ATS[937] places it in the perfect position to both represent Antarctica's value to Africa and to represent Africa's interests in the ATS. ASOS provides some insight into the broad mechanisms by which South Africa intends to pursue these objectives, namely by representing African interests at the ATS, by pursuing African regional cooperation, by advocating for equitable access to marine resources,[938] and by playing an educative role. At a more specific level, some examples of the areas in which South Africa can significantly develop and expand its role in this regard are listed briefly below. All suggestions, however, have at their core the need for South Africa to take the initiative and assume a leadership role or for South Africa to exert some form of influence. This would have to occur at a number of levels and in a range of different spheres which will be discussed below. However, common to all of them is the fact that, admittedly for a range of different reasons, South Africa is ideally placed, and in some cases uniquely or even exclusively placed to step into a leadership role or to exert influence or provide guidance. Antarctica, by its very nature, and by the very nature of the world's historical engagement with it, provides ample opportunity for this.

The ASOS also emphasises, as a strategic sub-objective 4.6.1.1, that South Africa "Maximise [its] visibility and assertiveness"[939] within the ATS. While this implies a greater, more general, leadership role in the ATS, the suggestions made here are confined to South Africa playing a greater leadership or influential role with regard to those aspects of the ATS in respect of which it is peculiarly placed to provide the most valuable input, for example, providing Antarctic scientific and political leadership in a geographic, regional context, specifically with regard to Africa, and providing leadership in respect of possible developments in areas in which South Africa has unique experience, for example democratisation and decolonisation. It is argued that this is a core area in which the ATS requires development, especially with regard to Africa. Enhancing the effectiveness of the ATS in achieving its objectives requires increased support for the ATS which is not possible unless its lack of legitimacy is addressed. This is precisely where South Africa's influence in this regard would be most appropriately used.

There are a number of additional ways that South Africa can assume a leadership role or play an influential role in decolonising and legitimising the ATS and, as is so often the case, many are interrelated. Providing leadership in one area will bring benefits in other spheres too. Thus, developing a regional association, for example, while offering an opportunity for South African leadership, is also valuable in itself as a South African contribution to the ATS in that it could facilitate increased ATS membership amongst African nations, thereby addressing issues of unrepresentativity and the elitist nature of the ATS as well as

[937] Verbitsky summarises this unique position, noting that arises from "…South Africa's founding state membership of the Antarctic Treaty 1959 and its Consultative Party status in the Antarctic Treaty System (ATS). In this context South Africa, as the only African Consultative Party state and one of the few developing states represented in the ATS decision-making group, is in a unique position." Verbitsky op cit note 603 pg. 196.
[938] DEA ASOS op cit note 20 pg. 17.
[939] Ibid pg. 17.

democratising the ATS. The same can be said of Verbitsky's suggestion, discussed below, of developing a bioprospecting regime for the ATS. This too would afford South Africa a leadership opportunity, but would also be a valuable and necessary contribution in its own right, through the diplomatic process of bringing such a regime into operation and would provide a benefit to the ATS in having a functional bioprospecting regime in place.

Developing regional institutions, democratising the ATS, developing ATS institutions, developing physical infrastructure, developing African scientific capacity and other similar opportunities, specifically focused on South Africa's strengths, are outlined briefly below.

5.4.1 Bioprospecting

The as-yet-unregulated (the newly agreed BBNJ agreement is not yet operational), bioprospecting industry is a challenge facing Antarctica and the ATS and has been discussed previously.[940] Verbitsky sees this as an area in which South Africa can make a positive contribution:

> "… South Africa, as the only African Consultative Party state and one of the few developing states represented in the ATS decision-making group, is in a unique position to advocate for … the introduction of a governance regime for bioprospecting of living resources in Antarctic waters."[941]

Verbitsky premises this suggestion on a number of factors, not least of which is the argument that Antarctica, in everything but name, represents a global commons and thus is either part of the Common Heritage of Mankind, or is so akin thereto that the same principles should apply to it. She makes out a comprehensive argument for this proposition,[942] concluding that

> "…there is potential for the idea of Antarctica as a global commons to be revisited. There is also significant potential for the Antarctic commons to be utilized for resource generation along the lines of the model established for The Area in UNCLOS. That is, as a commons area where extraction of natural resources from Antarctic waters is based on a scheme of equitable access and benefit sharing so that developing states who cannot engage in resource extraction on an equal basis alongside developed countries are not penalized for lack of features such as expertise, capital, or capacity."[943]

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[940] See discussion on bioprospecting under the challenges facing Antarctica.
[941] Verbitsky op cit note 603 pg. 196.
[942] See the section "Antarctic Commons" in Verbitsky's excellent article at pages. 202-207. Verbitsky op cit note 603 pgs. 202-207. She refers to the Question of Antarctica and the significant support in the UNGA for the concept to be applicable to Antarctica, , she draws parallels with UNCLOS, where the term "common heritage of mankind" was first used, and provides several other arguments, including "modern views of colonial era claims to territory; concepts of environmental rights and environmental justice; contemporary understandings of interdependence and shared trans-boundary problems; and the idea of intra-generational justice and its links to global South development." Verbitsky op cit note 603 pg. 205.
[943] Verbitsky op cit note 603 pg. 206.

The significance of this for bioprospecting is essentially that bioprospecting represents the exploitation of resources that are common to all mankind and thus the benefits created thereby, which are already considerable,[944] belong to all mankind, and that these should not be denied to developing countries, like most African countries:

> "… an Antarctic commons represents what may well be the most realistic opportunity for global South states to acquire a revenue source that could generate the resources to tangibly improve life opportunities for their people and one, moreover, in which they would have authority and agency—a contrast to the contemporary situation where many of those states are reduced to petitioner status with global financial institutions."[945]

While this is arguably true for bioprospecting conducted in ABNJ and probably true for bioprospecting conducted in Antarctica, it must be noted that this is not an accurate representation of what bioprospecting entails in general. Initially, genetic resources, which are the subject of bioprospecting, were considered to be a part of the common heritage of mankind, regardless of whether they were situated in areas within or beyond national jurisdiction. However, following the adoption of the CBD in 1992, all genetic resources found within the territory of a State are placed under the sovereignty of that State. This is further supported by UNCLOS, which provides that States have sovereign rights to the natural resources (including genetic resources) located in their EEZs and their continental shelves. This means that more often than not, bioprospecting (outside of Antarctica) involves resources that do not form part of the common heritage of mankind and the resulting benefits need only be shared with those who own and provide access to these resources.

Arguably, on the strength of the Antarctic Treaty specific injunction in Article III of the Antarctic Treaty, namely that

> "In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the Contracting Parties agree that, to the greatest extent feasible and practicable: …
> (c) scientific observations and results from Antarctica shall be exchanged and made freely available."[946]

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[944] "That the commercial opportunities arising from successful bioprospecting are lucrative is undeniable. A 2003 report on bioprospecting by UNU/IAS stated that in '2001, the 622 public [biotech] companies generated revenues of $35 billion, spent $16 billion in R&D and employed more than 188,000 people'. More recent research indicates that 'the global market for marine biotechnology products and processes is estimated at E2.8 billion for 2010'." Verbitsky op cit note 603 pg. 210, referring to UNU/IAS. 2003. "The International Regime for Bio Prospecting: Existing Policies and Emerging Issues for Antarctica." Accessed August 25, 2008. http://ias.unu.edu/binaries/UNUIAS_AntarcticaReport.pdf. pg. 9 and Jorem AE, "Bioprospecting for Blue Gold in the High Seas: Regulatory Options for Access and Benefitsharing" University of Oslo, Faculty of Law, 2012, pg. 1, https://www.duo.uio.no/bitstream/.../165736.pdf?...2. (Accessed February 4, 2013), respectively.
[945] Verbitsky op cit note 603 pg. 206.
[946] Antarctic Treaty Article III.

there already exists a binding obligation to share the results of any Antarctic bioprospecting, at the very least among signatory parties. The registration of hundreds of patents[947] in respect of Antarctic biota globally (but, incidentally, excluding Africa), is a clear indication of a breakdown in this regard. Verbitsky is thus completely correct. A bioprospecting regulation regime is necessary, not only in respect of the regulation of the bioprospecting processes themselves (specifically with regard to environmental protection), but especially with regard to benefit-sharing.

> "Championing the cause of an Antarctic commons bioprospecting framework based on equitable benefit sharing, then, would be a progressive, constructive action not only for the revenue generation opportunities for developing states, but also for the protective elements that need to be built into regulation, monitoring, and compliance of bioprospecting activities in order to prevent the equivalent of unregulated gold-mining in an incredibly vulnerable and critically important environment."[948]

However, the recently adopted[949] Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement) specifically aims to regulate bioprospecting in areas beyond national jurisdiction (ABNJ) and establish a benefit-sharing system to benefit, inter alia, developing countries.[950] Since this Agreement will, once it enters into force, apply to those parts of the Southern Ocean that fall under ABNJ, it might be a better regime to regulate bioprospecting in Antarctica, since it is designed to regulate bioprospecting in areas that are not subject to national laws and that fall outside the jurisdiction of a State.[951] However, the BBNJ Agreement applies specifically to ABNJ which

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[947] See the UNEP report to ATCM XXXV
"The companies that have filed patents related to inventions based wholly or in part on Antarctic genetic resources include National Institute of Advanced Industrial Science and Technology (Japan), Omegatech, Inc. (USA), Lipotec S.A. (Spain), Martek Biosciences Corporation (USA), Green Earth Industries (USA), Good Humor-Breyers Ice Cream, a division of Conopco, Inc. (USA), Life Medical Sciences, Inc. (USA), New England Biolabs (USA), Genetics Institute, LLC (USA) and Idea Inc. (USA). In addition, a number of universities, including University of Liege (Belgium), University of Chile, and Third Institute of Oceanography SOA (China) have filed patents related to Antarctic biota." (2007, 9–10) quoted Verbitsky op cit note 603 pg. 210.
[948] Verbitsky op cit note 603 pg. 211.
[949] 19th of June 2023. UN Agreement on Marine Biodiversity of Areas beyond National Jurisdiction, https://www.un.org/bbnjagreement/en. February 2025.
[950] Incidentally, it also establishes a specific procedure to create high seas Marine Protected Areas (see Part III Measures such as Area-Based Management Tools, including Marine Protected Areas, specifically Article 18), though it is yet to be seen whether this will be pursued in the Southern Ocean as an alternative route to CCAMLR in the quest to establish several Southern Ocean MPAs. Nocito and Brooks speculate that an important aspect of the BBNJ Agreement is that it will "not undermine" other existing international frameworks or bodies. In this instance, CCAMLR does represent an international body that intersects with several of the package elements of the BBNJ Agreement, such as through ABMTs and MPAs. …. The newly adopted BBNJ Agreement notes that disputes related to sovereignty claims that are within the competencies of other bodies (such as CCAMLR) are not eligible for an advisory opinion provided by the International Tribunal for the Law of the Sea." Nocito, ES & Brooks, CM "The influence of Antarctic governance on marine protected areas in the Biodiversity Beyond National Jurisdiction Agreement negotiations" *NPJ Ocean Sustainability* 2023 2 13 pg. 6.
[951] Unlike the Convention on Biological Diversity (CBD), which is designed to regulate bioprospecting within areas of national jurisdiction.

are defined in Article 1 thus: "'Areas beyond national jurisdiction' means the high seas and the Area." While this includes parts of the Southern Ocean, the Antarctic continent does not fall within this definition and thus bioprospecting in Antarctica is currently unregulated.

While there is an understanding that there is sometimes an overlap between what constitutes scientific research and bioprospecting with many bioprospecting projects developing out of excursions that began as scientific research, it is also arguable that there is a distinction between the two, not so much in the execution thereof, but in the intention or motivation therefore. Bioprospecting is not considered to be scientific research for the purposes of UNCLOS or the CBD, mainly because it is conducted for commercial purposes and scientific research is conducted for peaceful purposes. In addition, the obligation that knowledge derived from scientific research must be freely available is directly at odds with the nature of bioprospecting, which is characterised by the proprietary acquisition and protection of knowledge (and often the resources themselves) through the application of intellectual property law. This distinction is evident when considering Article 87 of UNCLOS, which provides for marine scientific research as an unregulated high seas freedom, while the BBNJ Agreement aims to regulate marine bioprospecting as an activity distinct from marine scientific research.

However, whichever avenue is adopted, the advantages and merits of the above course of action, namely bioprospecting regulation, ring true for whichever nation throws its weight behind it. Although South Africa's position (geographically and geopolitically) between Africa and Antarctica, suggests it is well placed, as Verbitsky herself acknowledges, "South Africa does not have a history of involvement with bioprospecting",[952] by which she means bioprospecting in Antarctica. However, there exists no reason why South Africa's contribution to the future development of the ATS should be limited to areas of concern that only South Africa can address. Its location straddling two oceans, being as close to a third as any nation can be,[953] its historical credibility within the system and its unique position in Africa all combine to place South Africa in a position where it can and should consider this kind of intervention. In addition, South Africa does indeed have a comprehensive bioprospecting regime that applies to many past and current bioprospecting activities conducted in South Africa, in both the terrestrial and marine environments[954] so it is not a stranger to the activity and the regulation thereof.[955] The ASOS also specifically makes mention, at 4.6.2.4, of the need to "Expand Antarctic and Southern Ocean research scope

[952] Ibid pg. 213.
[953] The Prince Edward Islands, South African territory, are on the edge of the Southern Ocean.
[954] See DFFE "Bioprospecting Economy" available at https://www.dffe.gov.za/bioprospecting-economy for more information in this regard. https://www.dffe.gov.za/bioprospecting-economy. February 2025.
[955] See for example, Chapter 6 of NEMBA, which regulates bioprospecting, together with the 2008 Bioprospecting, Access and Benefit-Sharing Regulations, (Government Gazette, No. 30739, No. R. 138, 8 February 2008, National Environmental Management: Biodiversity Act, 2004: Regulations on Bio-Prospecting, Access and Benefit-Sharing) and the 2012 Bioprospecting, Access and Benefit-Sharing Regulatory Framework, (Department of Environmental Affairs, South Africa's Bioprospecting, Access and Benefit-Sharing Regulatory Framework: Guidelines for Providers, Users and Regulators, https://www.dffe.gov.za/sites/default/files/legislations/bioprospecting_regulatory_framework_guideline.pdf. February 2025.)

beyond traditional sectors to include applied and emerging sectors,"[956] which clearly provides the policy-endorsed space for such research, and at 4.6.1.4 and 4.6.3.5 to "Advocate for equitable access to and benefit sharing of marine resources of Antarctica and Southern Ocean,"[957] and to "Co-operate with relevant parties in advancing co-ordinated governance for Antarctic and Southern Ocean management,"[958] which indicate that political intention to possibly intervene in this area also exists.

5.4.2 Developing a regional interest group

Membership of the Antarctic Treaty is limited to individual countries only, although non state parties have been admitted as observers or to contribute as experts on occasion, and the same applies to the Madrid Protocol.[959] CCAMLR, on the other hand, provides for a membership that is not limited to individual states but can include "a regional economic integration organisation"[960] and thus the European Union, for example, is a member of CCAMLR.[961] Leading the development of a regional approach[962] to the ATS is something that South Africa should consider investing some diplomatic energy in. Namibia is a member of CCAMLR and Mauritius is an acceding state to CCAMLR, and thus the basis for developing a regional interest block within CCAMLR[963] already exists.

Regional interests within the ATS already exist both formally and informally.[964] Apart from existing regional interest blocks showing an interest in, inter alia, Antarctica,[965] there exist

[956] DEA Draft ASOS op cit note 620 pg. 19.
[957] Ibid.
[958] Ibid pg. 20.
[959] "This Protocol shall be open for accession by any State which is a Contracting Party to the Antarctic Treaty." Article 22 (2) Madrid Protocol.
[960] "A CCAMLR Contracting Party is a State or a regional economic integration organisation, such as the European Union, which has committed to the Convention through ratification, acceptance, approval or accession." https://www.ccamlr.org/en/organisation/who-involved-ccamlr. May 2021.
[961] https://www.ccamlr.org/en/organisation/members. May 2021.
[962] When speaking of a regional approach, the emphasis is on regionalism as it is defined by Farrell, "as a policy and project whereby states and non-state actors cooperate and coordinate strategy within a given region … [aiming to] … pursue and promote common goals in one or more issue areas." Farrell M, "The Global Politics of Regionalism: An Introduction," in Farrell M, Hettne B, & Van Langenhove L, (eds.) Global Politics of Regionalism: Theory and Practice, London: Pluto Press, 2005, pg. 24, quoted in Colombo A, "International co-operation in Antarctica: the influence of regional groups" *The Polar Journal* 2019 9 (1) 175-196, pg. 176.
[963] https://www.ccamlr.org/en/organisation/acceding-states. May 2021.
[964] Arguably the UK, Australia and New Zealand form an informal 'Antarctic mini-commonwealth' regional grouping although the understanding of region in this context is less geographical, (unless Antarctica is seen as the geographical region) and more akin to an alternative understanding proposed by Farrell, namely "… states or territories, whose members share some identifiable traits," which stems from the UK, as part of a plan of colonisation, claiming vast swathes of Antarctica and then ceding control of two regions to New Zealand and Australia respectively. The respective countries have worked closely ever since, including joint Antarctic expeditions and still share a national flag and regent. South African history followed a very different trajectory and it is not part of this informal alliance. "The UK, which had invoked 'environmental authority' and stewardship for its claim, also encouraged New Zealand and Australia to lay claim to vast swathes of Antarctica, which they did. The UK, hoping to bring Antarctica into the British Empire/Commonwealth, also approached South Africa to make a claim, but it declined to do so." Sidiropoulos & Wheeler op cit note 452 pg. 10, referring to Dodds KJ, *The Antarctic: A Very Short Introduction* Oxford, Oxford University Press, 2012, pg. 51.
[965] The European Union's membership of CCAMLR for example.

also regional interest organisations created specifically to advance regional interests in the ATS and Antarctica:[966]

> "The current situation sees three extra-Antarctic regional groups active in Antarctica, which find their geographical origin, in Asia, Europe and South America. Each group is represented by the Asian Forum for Polar Sciences, the European Polar Board and the Reunión de Administradores de Programas Antárticos Latinoamericanos, respectively."[967]

As may be apparent from the regional groups themselves, regions, in the context of this discussion, are understood to be geographic groupings of countries.[968] The structure of all three of the current regional interest groups is clearly along geographic lines. Membership of the Asian Forum for Polar Sciences (AFPS), established in 2004, includes Japan, China and Korea[969] as founding members, subsequently joined by India, Malaysia and Thailand. Membership is limited to the national Antarctic programmes of member countries which effectively means only ATCPs can be members. However, there is provision for an observer status which requires only that "… a country must have a polar research programme, meaning a stable scientific intent,"[970] and Indonesia, the Philippines, Sri Lanka and Vietnam have attended on this basis.[971]

The European Polar Board (EPB), established in 1995,[972] is also geographically constituted and twenty European countries are represented.[973] However, membership is constituted by "funding agencies, polar operators and research institutes"[974] with an upper limit of three such members per country, so there are currently 28 members.[975] Provision is also made for observer status. Notably, however, membership of the EPB is not dependent on

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[966] It should be noted that the Asian Forum for Polar Sciences and the European Polar Board also have an interest in Arctic affairs. Colombo op cit note 961 pg. 175.
[967] Ibid.
[968] According to Colombo, "Mansfield and Solingen define a region as 'groups of countries located in the same geographic space,'" Colombo op cit note 961 pg. 176, referring to Mansfield ED, & Solingen E, "Regionalism" *Annual Review of Political Science* 2010 13 145–163, pg. 146. This definition is adequate to present purposes and there is no need to do as Colombo has done and extend the definition to include Farrell's suggestion definition of "regions as unit or 'zones' based on groups, states or territories, whose members share some identifiable traits," Colombo op cit note 961 pg. 176, referring to Farrell M, "The Global Politics of Regionalism: An Introduction," in Farrell M, Hettne B, & Van Langenhove L, (eds.) Global Politics of Regionalism: Theory and Practice, London: Pluto Press, 2005, pg. 24.
[969] Colombo op cit note 961 pg. 185.
[970] Ibid.
[971] Ibid.
[972] "Since 2015, the EPB has been an independent entity, with its Secretariat hosted by the Netherlands Organisation for Scientific Research (NWO) in The Hague. Established in 1995, the EPB was earlier an Expert Board of the European Science Foundation." https://www.europeanpolarboard.org/about-us/. May 2021.
[973] Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, France, Germany, Iceland, Italy, Luxembourg, The Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey and the United Kingdom. https://www.europeanpolarboard.org/about-us/membership/. May 2021.
[974] Colombo op cit note 961 pg. 187.
[975] https://www.europeanpolarboard.org/about-us/membership/. May 2021.

membership of the Antarctic Treaty and so not all the countries which the members represent are ATCPs[976] or even non-Consultative parties.[977]

The Reunión de Administradores de Programas Antárticos Latinoamericanos (RAPAL) was established over a series of meetings from 1987 to 1989, by Argentina, Chile and Uruguay.[978] Brazil, Ecuador and Peru subsequently, in 1990, joined the organisation.[979] Membership is constituted, as the name suggests, by the managers of the member countries' national Antarctic programmes and so, like the AFPS, only countries with ATCP status can be members.[980]

While membership criteria and structures may differ, what all the regional organisations have in common is the ostensible purpose for which they were created, namely to foster regional co-operation, primarily in support for scientific research and in conducting scientific research itself. As Colombo notes,

> "Science and science-support are the main aims of extra-Antarctic regional groups that foster common interest between countries to avoid overlaps in scientific research while bringing together countries that have cultural, linguistic or political similarities. […] In fact, AFoPS, EPB and RAPAL share the common idea of facilitating co-operative science and science-support projects, within their respective members."[981]

The EPB, for example, states that its mission is "[t]o promote, coordinate and advance European research at high latitudes by providing a single collaborative platform for European polar researchers."[982] The same is true of RAPAL and AFPS.

However, RAPAL is not limited to scientific research and engages in other coordinated Antarctic activities. Through Argentina and Chile, for example, it operates the "Joint Antarctic Naval Patrol" system,[983] and it is the only regional organisation that expressly lists environmental protection as one of its objectives, aiming to "[c]ontribute to the protection and conservation of the Antarctic environment and its dependent and associated ecosystems."[984] And the AFPS, while focused on scientific co-operation, sees an additional

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[976] For example, Austria, Denmark, Estonia, Iceland, Portugal, Switzerland and Turkey. This is understandable given that some of the member countries' interests lie in the Arctic region.
[977] For example, Luxembourg.
[978] http://www.rapal.org.ar/. May 2021.
[979] "The National Administrators of Antarctic Programs of Argentina, Brazil, Chile, Uruguay, Ecuador and Peru constitute the Meeting of Administrators of Latin American Antarctic Programs (RAPAL)." http://www.rapal.org.ar/. May 2021.
[980] "According to RAPAL's Terms of Reference, paragraph 4a, only countries that have achieved Antarctic Treaty Consultative State status can have their national Antarctic operator taking part in the forum as members with voting rights. In fact, as in AFoPS, only national Antarctic operators can be RAPAL members." Colombo op cit note 961 pg. 189.
[981] Ibid pg. 184.
[982] https://www.europeanpolarboard.org/about-us/strategy/. May 2021.
[983] Colombo op cit note 961 pg. 191.
[984] http://www.rapal.org.ar/INFGRAL.HTM. May 2021.

semi-political[985] advantage to be gained by working as a regional grouping. Colombo notes that it uses the regional group to create a more visible presence in Antarctica:

> "Rather than a single country, if we are going to be recognised as an Asian group, we will be more visible, and it will be more productive for us. ... So rather than just a single country, AFoPS makes a big voice and it is better for us to be recognised."[986]

Thus the foundations have been set for South Africa to initiate and develop an African regional organisation that has as its objectives the furtherance of Antarctic and Southern Ocean scientific research. While South Africa may at this stage be the only member of the ATS, the EPB has demonstrated that ATS membership is not necessarily a compulsory criterion. The establishment of an African Antarctic Forum that aims to encourage the establishment of African scientific research in Antarctica, the development of which is a precursor to the coordination of African regional scientific research, would certainly be a positive first step in bringing Antarctic scientific research to Africa, and Africa to the ATS. This approach is clearly endorsed by all the existing regional structures, all of which actively encourage the development of scientific capabilities in nations within their regions which previously had no Antarctic capabilities. For example, in the AFPS,

> "The willingness to involve more emerging countries in polar research is also visible, with reference to the Korea Polar Research Institute and the Japan National Institute of Polar Research' activities, as evidenced by a fellowship for early career researchers and sharing of capabilities. These two countries in 2014 started fellowships for people from other Asian countries, hosting five or six and two or three scientists, respectively, to work with their institutes; additionally, they also offer the possibility to researchers to participate in Antarctic cruises in order to foster exchange of personnel and knowledge."[987]

The EPB allows for membership of countries without independent Antarctic capabilities to share and develop expertise, and also has a formal partnership with the Association of Polar Early Career Scientists (APECS)[988] and RAPAL, and while not expressly stating that it aims to assist emerging countries, does note that it aims to "[e]ncourage cooperation and joint work in communication, education and culture in relation to Antarctica that develops in the SALW countries,"[989] and it provides for observer status for South American countries with developing Antarctic interests.[990]

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[985] Science is, after all, the political currency of Antarctica.
[986] Colombo op cit note 961 pg. 187.
[987] Ibid pg. 186.
[988] https://www.europeanpolarboard.org/about-us/history/. May 2021. "With this MoU, the EPB and the Association of Polar Early Career Scientists (APECS) recognise common goals of engaging and supporting polar science through scientific activities, promotion of polar facilities, and education, outreach and communication. The EPB and APECS recognise the importance of fostering the next generation of researchers that will be faced with increasingly critical challenges due to the impacts of climate change on the polar regions and their global significance." https://www.europeanpolarboard.org/about-us/agreements/. May 2021.
[989] http://www.rapal.org.ar/GRUPOS/INDEX.HTM. May 2021.
[990] Meeting of Latin American Antarctic Programs, Terms of Reference, Article 4 (c) & (d), http://www.rapal.org.ar/TERMREF.HTMicle. May 2021.

The scope and precedent thus exists for South Africa to form the nucleus of an Antarctic regional organisation, based around scientific research and possibly logistic cooperation. The Draft ASOS, while not going as far as suggesting the creation of an Antarctic-specific regional forum, does recognise the need for South Africa to provide African regional leadership, at 4.6.1.2 "through pursuing regional cooperation on Antarctic activities within the African continent (through the African Union),"[991] and, at 4.6.5.3, to "[p]romote infrastructural development that will enhance participation of the African continent in Antarctic activities."[992] The draft strategy thus anticipates the broader goal of regional involvement, while the author's suggestions in this regard provide a possible avenue to facilitate the achievement of this goal. This dovetails neatly with the broader principle of expanding South African regional leadership in Antarctica, which will be discussed below.

5.4.3 Creating an African Polar Institute

Developing the concept of a regional interest group and focusing on the expanded scope for South African Antarctic leadership are both strongly endorsed by Sidiropoulos and Wheeler, who note the opportunity that Antarctica presents:

> "Antarctica provides many science and research opportunities for collaboration among African academic and scientific fraternities and South Africa could help spearhead these in a similar way to the Square Kilometre Array project."[993]

They make the additional and valuable point that assuming such a role would not be new, as South Africa has experience in other scientific endeavours that would be translatable to Antarctica:

> "The Square Kilometre Array is an international collaborative project between South Africa, a number of African partner countries (Ghana, Kenya, Madagascar, Mauritius, Mozambique, Botswana, Zambia and Namibia) and Australia to host the world's biggest radio telescope."[994]

Although focusing on the advantages to South Africa of expanding its leadership role,[995] Sidiropoulos and Wheeler are also mindful of the advantages to be had for the ATS generally and Antarctica as a continent, and they take the notion of a regional interest group one step further and advocate for the creation of an African Polar Institute, arguing persuasively that

[991] DEA ASOS op cit note 20 pg. 17.
[992] Ibid pg. 18.
[993] Sidiropoulos & Wheeler op cit note 452 pg. 34.
[994] Ibid.
[995] "South Africa's stated goal of having Africa at the centre of its foreign policy agenda can equally be advanced through its Antarctic engagement." Ibid.

> "South Africa's long-standing presence in Antarctica should be used as a catalyst to cultivate more interest in science and technology among its budding scientists, in the same way that the Square Kilometre Array is being positioned regarding space science. In this regard, South Africa has built up strong science and technology co-operation across boundaries on a variety of issues."[996]

This would significantly support scientific beneficiation of Africa and South Africa would not only become a portal for African nations to receive the benefits of scientific research already being undertaken in Antarctica, but would also facilitate entry to Antarctica by African scientists for research. Sidiropoulos and Wheeler even suggest the mechanics of how this can be achieved, suggesting that

> "South Africa should focus greater energy on making the SANAE IV base a hub for African research and science to encourage scientists from across the continent to undertake research there. Cape Town is already regarded as one of five official 'gateway cities' to the Antarctic. The city currently provides logistical and scientific support to vessels from nine countries … for their Antarctic and Southern Ocean expeditions. These efforts should be magnified and an African centre of excellence on Antarctica and the Southern Ocean be established (an African Polar Institute), which should help to encourage more widespread African-generated research in Antarctica on climate change, space, weather and marine science."[997]

An additional advantage, over and above those accruing to South Africa and to the protection of the Antarctic environment, would be that any and all such initiatives would contribute significantly to the increased internationalisation of the ATS (as discussed by Ferrada, Scott and Triggs) and the democratisation of Antarctic governance (mentioned previously by Verbitsky), thereby further legitimizing the ATS, decolonising Antarctic knowledge[998] and rendering the ATS increasingly robust and better able to cope with the challenges it faces. As Sidiropoulos and Wheeler encapsulate all these advantages, noting that:

> "Such initiatives help to mitigate the exclusionary nature of the Antarctic Treaty System (which provides consultative party status only to those countries that can afford to have a permanent scientific presence in Antarctica). This in turn can boost South Africa's stature as a leading developing country and player in South–South co-operation, while also cementing its credentials in helping to move Africa from the margins of global governance debates."[999]

The notion of a centre of excellence for Antarctic and Southern Ocean research differs slightly from the establishment of a regional association, with the regional association, as

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[996] Ibid pgs. 51-52.
[997] Ibid.
[998] "This could advance a significant objective highlighted in the NRF strategic document on SANAP: that of 'decolonising' knowledge." Sidiropoulos & Wheeler op cit note 452 pg. 52.
[999] Ibid pg. 34.

demonstrated by the three existing regional bodies discussed above, having a much wider mandate encompassing, inter alia, diplomatic co-operation, coordinating logistics, joint endeavours and policy formulation. A regional association would not, and indeed should not intervene in the sphere of scientific research, but should support and facilitate it. In this respect the regional association proposed earlier fits more within the scope of strategic objectives 4.6.1, "To strengthen South Africa's positioning, role and influence in the Antarctic Treaty;"[1000] 4.6.4, "To enhance public awareness and interest in Antarctica and Southern Ocean matters"[1001] and 4.6.5, "To plan, provide and maintain infrastructure for operations in Antarctica and [the] Southern Ocean,"[1002] while the Polar Institute envisaged by Sidiropoulos and Wheeler is more consistent with strategic objectives 4.6.2, "To optimise use of South Africa's strategic positioning to advance world class scientific research"[1003] and 4.6.3, "To promote and maintain the special nature and ecological integrity of Antarctica and the Southern Ocean."[1004] This suggestion, however, finds specific expression in the ASOS, albeit in a slightly different form, in the section titled "Governance and Institutional Arrangements"[1005] which focuses on the proposed establishment of several permanent institutions. The two most relevant of which are The Antarctic and Southern Ocean Forum and The Antarctic and Southern Ocean Technical Committee.[1006] These proposed institutions are, however, envisaged to function primarily (initially at least), at a national level and thus do not directly address the proposal of an African Polar Institute.

5.4.4 Providing permanent international ATS infrastructural facilities

An important and overlooked area in which South Africa can make an influential contribution to the ATS is in the provision of infrastructural support. South Africa already has a small degree of Antarctic-dedicated infrastructure in place, although this is primarily focused on logistical infrastructure, such as an exclusive wharfing zone for the S.A. Agulhas II, the provision of "office space and communication services to other Antarctic national research programmes,"[1007] and the use of Cape Town International Airport as the base for the Dronning Maud Land Air Network (DROMLAN). In addition, as mentioned, Cape Town serves as a gateway city for the Antarctic programmes of ten countries.[1008] However, none of these represent ATS infrastructural support. There is, of course, very little in the way of ATS infrastructure and such as there is, is already sufficiently catered for. Washington DC is the repository of the Antarctic Treaty, the Antarctic Treaty Secretariat is located in Buenos Aires, CCAMLR in Hobart, COMNAP in Canterbury and SCAR in Cambridge. Cape Town would

[1000] DEA ASOS op cit note 20 pg. 17.
[1001] Ibid pg. 18.
[1002] Ibid.
[1003] Ibid pg. 17.
[1004] Ibid.
[1005] Ibid pg. 19.
[1006] Ibid. The Draft ASOS 2020 contemplated a third, "The South African Antarctic Unit", Department of Environmental Affairs, DEA Draft ASOS op cit note 620 pg. 24.
[1007] Roldan op cit note 620 pg. 8.
[1008] "At present there are ten other Antarctic National Programme that launch their Antarctica and island expeditions from South Africa." DEA ASOS op cit note 20 pg. 14.

be the perfect location for any future ATS infrastructure, be it the permanent location of a dedicated Antarctic Tribunal, or a hypothetical Bioprospecting Commission.

The ASOS also includes, as strategic objectives 4.6.4 and 4.6.5,[1009] the development of physical infrastructure. The former is aimed at creating, primarily domestic, public awareness and, as part of achieving this, proposes the development of an Antarctic Centre and Precinct which will provide a physical locus around which domestic Antarctic infrastructure can be centred. Although no specific mention is made of ATS infrastructural development[1010] (this is not the focus of the ASOS), the creation of such a space would nevertheless provide the perfect location should the need for ATS dedicated infrastructural capacity arise.

The latter deals primarily with physical infrastructure "for operations in Antarctica and Southern Ocean"[1011] and thus is not relevant to the present suggestion. However, it should be noted that provision is made for South Africa's Antarctic and Southern Ocean infrastructure to be developed to "enhance participation of the African continent in Antarctic activities"[1012] which is directly in line with the suggestions made previously for South Africa to lead, facilitate and capacitate African scientific research capabilities in Antarctica and the Southern Ocean.

5.4.5 Decolonising the ATS

While the above suggestions provide physical and practical steps that will broaden ATS, membership, share benefits and enhance awareness and support for the ATS, they are merely concrete manifestations of a much more significant political and legal advantage, namely the decolonisation and legitimisation of the ATS itself. They are the means by which the ultimate goal can be achieved.

5.4.5.1 Democratisation

The need to address the damage to the perceived legitimacy of the ATS caused by its colonialist, undemocratic, elitist and unrepresentative nature is clearly articulated by several Antarctic experts. Brady states emphatically that,

> "Antarctic governance clearly needs to democratise and efforts to achieve this have so far been too little, and too late. The means to solving the problem is to make it easier for more concerned nations to participate in Antarctica, thereby bringing about a true 'post-colonial Antarctica'. Antarctica must be governed in the interests

[1009] DEA ASOS op cit note 20 pg. 18.
[1010] The strategic objective does, however, include establishing an "Antarctic community and Logistics Network for all Antarctica gateway related enquiries." Ibid.
[1011] Ibid.
[1012] Ibid.

> of all humankind. Recognising this necessitates opening up participation in Antarctic governance to all the nations of the world."[1013]

Yermakova notes that Hemmings argues likewise,

> "Antarctic expert Alan Hemmings suggests that the regime is due for a serious structural update ... Hemmings argues that the ATS's 'apparent calm disguises significant ecological and geopolitical instability,' and it is time to transition to a collectively managed regional system open to wide participation in order to reflect that Antarctica is of global interest."[1014]

Added to South Africa's unique geographical, historical and current position in Antarctica, already mentioned, specifically with regard to contributing to the decolonisation of the ATS, should be its very recent political and related experience with its own transition from an unrepresentative, privileged and elitist state to a fully democratic one. The transition was unprecedented in scope and complexity and South Africa is thus possessed of a wealth of experience in the democratisation and legitimisation of governance structures. Verbitsky again identifies the democratisation[1015] of the ATS as an area where South Africa can play a significant leadership role. This would mean, she notes, significantly enhancing its foreign policy outlook to take into account this role, as well as creating a better domestic awareness of the importance of Antarctica for South Africa.[1016]

> "It would also need to strategically plan to include Antarctica and the ATS as a foreign policy priority for the years ahead and plot out a course in Antarctic politics that could be followed by successive South African governments, even of different political backgrounds. Thus, it would need to create consciousness within the country among the general population and, particularly, the domestic political institutions of the benefits that could accrue to South Africa through greater involvement in Antarctic politics."[1017]

In addition, the oft-referred-to obstacles thrown up by South Africa's fractured departmental approach to the management of SANAE would need to be addressed.[1018] But, as Verbitsky notes, the basic principles already exist in South Africa's official foreign policy stance: "the White Paper on National Environmental Management of the Ocean, released on 28 May 2014 contains goals and objectives for South Africa that are consistent with this

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[1013] Brady op cit note 925 pg. 460, quoted in Yermakova op cit note 18 pg. 98.
[1014] Hemmings AD, "From the New Geopolitics of Resources to Nanotechnology: Emerging Challenges of Globalism in Antarctica" *The Yearbook of Polar Law Online*, 2009 1 (1) pgs. 55-72, quoted in Yermakova op cit note 18 pg. 53.
[1015] Yermakova argues strongly that "To transition toward a more just path, democratization of the ATS is the way forward." Yermakova op cit note 18 pg. 122.
[1016] Interestingly the Draft ASOS 2020 picks up on this and lists as a specific strategic objective, at 4.6.4, the need "To enhance public awareness and interest in Antarctica and Southern Ocean matters," and lists several sub-objectives that address this. DEA Draft ASOS op cit note 620 pg. 21.
[1017] Verbitsky op cit note 603 pgs. 211-212.
[1018] "Additionally, there would need to be greater coherence between the multiple governmental entities, including the DEA, NRF, DST currently involved in Antarctic affairs as well as DIRCO." Verbitsky op cit note 603 pg. 212.

proposal."[1019] However, even though the White Paper specifically refers to South Africa's unique Antarctic position and to its desire to influence Southern Ocean management strategies,[1020] it does so in a very broad context, notably:

> "… the country 'intends to strengthen its interactions on global environmental management initiatives in an attempt to appropriately influence global strategies ... at three levels: South-South and South-North; Antarctic and sub-Antarctic; and regional and continental'"[1021]

It thus, while speaking of, and recognising the need for, strategies on a regional and continental level (presumably the African, not Antarctic, continent), does not specifically refer to the democratisation of the relevant institutions, in this case the ATS. This is a minor shortcoming that would need to be addressed and included as a foreign policy goal that would dovetail neatly with the 'democratisation' of resource and environmental management already included.

However, this important democratisation process is expressly anticipated in the Draft ASOS which specifically refers at 4.6.1.1 and 4.6.1.2 (the very first two of the many other strategic sub-objectives), to

> "… advancing the African agenda in negotiation processes of the Antarctic Treaty system; [and to] pursuing regional cooperation on Antarctic activities within the African continent (through the African Union)."[1022]

Although the Draft ASOS anticipates the use of position statements as the preferred mechanisms to achieve these goals,[1023] the suggestions made anticipate a more proactive approach, albeit one that will require a longer timeline to bear fruit, to democratisation, that aims at broadening the democratic representation of developing world countries, particularly in Africa, though the upskilling of the prospective participants and facilitating their entry into the system, by qualifying them for admission, not necessarily by reducing the admission requirement of scientific activity. South Africa provides an excellent example of the merits of a scientifically-informed domestic Antarctic policy, and the ATS, for all its faults and the challenges it faces, still owes a considerable degree of its success and strength to scientifically-informed policy formulation, implementation and decision-making. In fact, the biggest internal challenges to the ATS stem from circumstances where a reliance on scientific

[1019] Verbitsky op cit note 603 pg. 213.
[1020] "Additionally, the Paper recognizes that South Africa's position as 'an original signatory of the Antarctic Treaty' and sovereign of two sub-Antarctic islands places it in a good position 'to influence planning and management strategies in the Southern Ocean.'" Verbitsky op cit note 603 pg. 214.
[1021] Verbitsky op cit note 603 pg. 213 referencing the Republic of South Africa. 2014. "White Paper on National Management of the Oceans." Government Gazette 587 (37692), pg. 18.
[1022] DEA Draft ASOS op cit note 620 pg. 19. Strategic sub-objective 4.6.5.3 also refers to the need to "Promote infrastructural development that will enhance participation of the African continent in Antarctic activities," DEA Draft ASOS op cit note 620 pg. 21.
[1023] "Prepare and present position statements in line with issues discussed at the Antarctic Treaty Consultative Meeting (ATCM)." Ibid pg. 26.

research and advice are subordinated to geopolitical interests in the decision-making process, as previously discussed.

However, democratisation of the ATS is only one aspect of the ATS that undermines its legitimacy. It has already been mentioned that it is elitist, exclusive, unrepresentative, and inherently colonial in nature and, as a result, is facing a crisis of legitimacy. The approach advocated by Verbitsky and expanded upon in this thesis, will see South Africa addressing all of these shortcomings. They are, as has already been demonstrated, closely interrelated. Thus, the decolonisation of the ATS, of necessity, includes its democratisation. Yermakova, inadvertently, recognises this, stating that "... a democratization of the institution's strategy demands a more representative and accountable version of the ATS."[1024] She even expressly recognises that this is a specific issue for "poor countries",

> "Democratization of international institutions so that they are more accountable and representative, to enable poor countries to interact on fairer terms and express their interests."[1025]

5.4.5.2 Unrepresentativity and elitism

However, democratisation and participation are not necessarily the same thing. The ATS is not undemocratic in its internal processes[1026] – every full participant has a voice and a vote, but it is unrepresentative and elitist. A two-tier system of membership means not all participants are full participants and, as has been argued, membership is limited by a discriminatorily-high entrance threshold. Increasing the membership of the ATS is a complex issue and is not widely supported, especially by those ATCPs with the most to lose.[1027] As Molenaar notes

> "Some Antarctic claimant States (see below) may have regarded – and also continue to regard – increased participation with concern for the reason that it necessarily meant/ means an increase in the number of non-claimant States and thereby a relative decrease of the group of claimant States vis-à-vis the overall number of participants."[1028]

In addition, he points out that, apart from the selfishness of the claimant states, there are concerns that,

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[1024] Yermakova op cit note 18 pg. 71.
[1025] Ibid pg. 83.
[1026] All CPs vote and even have a veto. However, there are only 29 of them, so on a global scale the ATS is indeed undemocratic. It is also arguably inherently undemocratic in the sense that the exercise of a veto by any one member has the effect of undermining the democratic concept of majority rule, a point well made by Brady in the footnote below. Brady op cit note 925 pg. 460.
[1027] "... the Antarctic Treaty's current consensus voting system is allowing a minority group of states with vested interests to block change. The seven claimant states, in particular, fear majority rule, but it would be far more democratic and fair and garner greater legitimacy for the Treaty." Brady op cit note 925 pg. 460.
[1028] Molenaar op cit note 11 pg. 361.

> "Broader participation means the Treaty and acts adopted by the ATCM become applicable to a larger group of States. Such expanded applicability does not necessarily also improve effectiveness, however, as each new participant obtains a de facto right to veto."[1029]

This, of course, is logically incoherent and is simply using one flaw to justify perpetuating another. If the de facto right to veto is hampering ATS effectiveness, then surely it is the right to veto that needs to be addressed and fixed, not the notion that limiting membership will make an already existing problem go away. If it is not an existing problem, then allowing more participants will not create one – unless the colonial mindset is that new members cannot be trusted.

Membership, therefore is an issue, as argued in this thesis. Only 29 of the world's nations can actually participate in the governance of Antarctica and this is not entirely, or even necessarily, due to a lack of interest. There are many advantages that accrue to Consultative Parties. As Molenaar points out,

> "There are multiple reasons why States want to participate in the Antarctic Treaty and other key instruments of the Antarctic Treaty System (ATS)5 – namely the CCAS, the CAMLR Convention and the Environmental Protocol – as well as participate in decision-making by their principal bodies – namely the ATCM, the Meeting of Parties to the CCAS, CCAMLR and the Committee for Environmental Protection (CEP). These reasons relate, among other things, to:
>
> (a) the fundamental issue of Antarctic territorial sovereignty;
> (b) the international prestige and stature often associated with participation in the Antarctic Treaty;
> (c) the ability to engage in activities such as scientific research, tourism, exploitation of resources, and associated activities (e.g., fishing-related activities such as provisioning of fuel and transhipment of catch); and
> (d) the ability to participate in decision-making and thereby influence the adoption and substance of individual decisions as well as the wider evolution of the ATS."[1030]

Further, as Yermakova points out, and as referred to earlier, increased membership is also to the advantage of the ATS itself. The ATS is better able to regulate the activities of members than it is able to regulate those of non-members.[1031]

South Africa, through the steps outlined above, is the only country that is in a position to lead other African nations into membership of the ATS, thereby beginning the process of increasing its representativity and shaking the elitist tag is currently labours under. "A

[1029] Ibid.
[1030] Ibid.
[1031] Yermakova op cit note 18 pg. 66, quoting Barrett op cit note 897 pg.161.

transition toward a more just regime calls for the ATS to be more representative and inclusive."[1032]

Molenaar, thoroughly examines the threshold requirement for full Consultative Party membership status of the ATS and argues that the requirement that countries wishing to accede to the ATS and obtain full CP status engage in scientific research[1033] is potentially discriminatory and that it has indeed been discriminatorily applied.

> "There is nevertheless potential for them to be operationalised and applied in a manner that amounts to discrimination (unjustifiable differentiation) against and between applicant States. If so, this would impede the ability of Acceding States to exercise their entitlement to obtain ATCP status, and would challenge the 'openness' of the Antarctic Treaty, with repercussions for its legitimacy and effectiveness. However, no provision in the Antarctic Treaty prohibits discrimination and no overarching prohibition appears to be applicable either. The risk of discrimination is considerable due to the fact that the assessment of compliance with the ground and requirements for ATCP status has in practice been treated as a matter of substance rather than procedure, and is thereby subject to decision-making by unanimity. This also enables each ATCP to use its de facto veto for reasons that should not be part of the assessment."[1034]

This requirement is indeed elitist and discriminatory, as discussed earlier. However, this requirement has been relaxed and some of the issues surrounding procedure and transparency have been partially addressed. This culminated in the relatively recent adoption, at the 40th ACTM in 2017, of Decision 2 (2017) which now clearly sets out the guidelines for obtaining Consultative Party status.[1035] Most significantly, the interpretation previously adopted by the Consultative Parties, namely that an applicant must establish a permanent scientific station in Antarctica as evidence of engagement in scientific research,[1036] has been dropped.[1037] The Netherlands, as far back as 1990, was able to obtain membership without establishing a permanent base and so Decision 2 (2017) has had the effect of

[1032] Yermakova op cit note 18 pg. 122.
[1033] "... demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition." Article IX(2) of the Antarctic Treaty.
[1034] Molenaar op cit note 11 pg. 365.
[1035] See Molenaar, "The ICG reported back to the 40th (2017) ATCM with a proposal for what eventually became Decision 2 (2017). ... Decision 2 (2017) replaces Decision 4 (2005) and the 1987 Guidelines in their entirety, and has the 2017 Guidelines annexed thereto." Ibid pg. 374.
[1036] "... the practice on applications for ATCP status until 1990 ... confirms that the establishment of a scientific station was in fact a minimum requirement." Ibid pg. 369.
[1037] Molenaar points out the obvious advantage of this, but warns that it may yet be discriminatory. "An obvious advantage – for the applicant – was that this significantly lowered the costs of obtaining ATCP status. A disadvantage of this change is that, compared to focusing mainly on the establishment of a research station, objective verification of compliance has become more difficult, and is thereby more likely to lead to more differentiation and possibly even discrimination." Ibid pg. 372.

> "... codifying the existing practice ... This enhances transparency and facilitates equal treatment between applicants. The main feature of the existing practice is that – ever since ATCP status was accorded to the Netherlands in 1990 – establishing a scientific station is not required."[1038]

Obtaining membership is, however, still not easy. According to Molenaar, "During the 27 years from 1995 until the present, three Acceding States obtained ATCP status." Venezuela, for example, has had an application for CP status rejected twice, probably due to opposition from South American ATCPs over its domestic situation.[1039] This, therefore provides a significant opportunity for South Africa to utilise its position as an ATCP to support membership applications by other African nations and to use its position and resources as an active scientific research nation with a permanent Antarctic base, sub-Antarctic territory with a permanent base and a world class Antarctic icebreaker and floating research platform to provide the opportunities for the forms of joint scientific activity that are necessary to meet the accession threshold.

5.4.5.3 Decolonisation

The colonial nature of the ATS has, likewise, been discussed. It is not suggested that South Africa, at this stage, directly address the most significant underlying colonial trait inherent in the ATS – namely the persistence by the 7 claimant nations to their Antarctic territorial claims. However, it can do so indirectly by taking the concrete steps suggested in this thesis. Increasing the membership of the ATS will have the positive effect of further diluting the claims and influence of the claimant states. An outright majority at the time of the creation of the Antarctic Treaty – 7 of 12 participants – the claimant states no longer constitute a majority. They now number only 7 of 29 – less than 25% of the Consultative Parties. They constitute only 3.6% of the world's countries. Even a modest increase in ATS full membership will significantly reduce their inordinate, and often negative, influence.[1040] More importantly, greater ATS membership numbers and participation will ensure that the motivation underlying territorial claims, namely access to and control of resources, an inherently colonial issue, will be significantly more difficult for the claimants to pursue.

Decolonising the ATS is as much about incrementally undoing the overt trappings of colonialism – increasing membership beyond the colonial powers, lowering or circumventing the discriminatory financial entry requirements, ensuring that poorer nations have a vote, ensuring that those affected by the decisions have a right to participate in the decision-making process, for example, – as it is about changing the mindset, or perceptions, of the

[1038] Ibid pg. 375.
[1039] "Venezuela's 2016 application – as well as its 2018 application – seems to have failed mainly due to opposition by South American ATCPs; based not so much on the adequacy of science but on the continuously deteriorating domestic situation in Venezuela at the time." Ibid pg. 374.
[1040] Yermakova is of the view, correctly, that these claims undermine the legitimacy of the ATS and are an impediment to environmental protection of Antarctica, "unresolved question of sovereignty are obstacles to establishing protected areas." Yermakova op cit note 18 pg. 53.

existing ATCPs. The concrete steps suggested above – infrastructural development, increasing African participation, exhibiting political leadership – will all contribute to dismantling these perceptions.

5.5 Substantive decolonisation

However, increasing representation, democratising the decision-making and governance processes and lowering the exclusivity bar is simply not enough. As demonstrated above, the ATS is inherently colonialist in structure, attitude and in some of its most important policies. This has to change from a substantive viewpoint. Allowing former slaves to become members of the Polo Club doesn't change the Polo Club. The waiters are still subservient, sub-minimum wage employees, all profits still go to the rich owners and shareholders and the Board of Directors still make all the critical decisions. Changing the dress code will not change the inherent prejudice. For this reason, South Africa, when embarking on a process of decolonisation must be mindful of two important aspects. Decolonisation is not the goal – it is an important *sine qua non* towards achieving the broader goal of protecting Antarctica and the Antarctic environment, i.e. substantive decolonisation, and South Africa must ensure that its own interests and intentions are aligned with this ultimate goal. The added complexity is that by spearheading the drive to decolonise the ATS, South Africa is also representing the interests of excluded marginalised nations not only in decolonising the ATS but also their interests in the ultimate goal of Antarctic preservation with a long-term view towards, *inter alia*, significantly improved climate security. In other words, South Africa must follow an approach that forgoes immediate gain and self-interest in favour of long-term Antarctic environmental protection aimed at preventing any further climate deterioration that will have a negative impact upon Africa, and of course South Africa itself. For this reason, an understanding of Antarctica and the Southern Ocean, from an environmental perspective as well as an understanding of the true value of the Antarctic, is necessary.

Building on the argument that it is in the world's best interests to ensure that Antarctica is environmentally protected, and that it is also in South Africa's best interests, the South Africa needs to firmly adopt and disseminate the position that it is also best for Africa for Antarctica to remain environmentally protected, and indeed to strengthen this environmental protection. As Vanstappen notes,

> "This situation is reinforced by the recognition of the integral role of Antarctica in the global ecosystem and its role as an important indicator for measuring climate change – the so-called canary in the coalmine."[1041]

The lack of response by many African states to the climate change crisis and its negative impacts on Africa indicate that this important foundational point is either not appreciated or there is no long-term strategy for ensuring it is protected. This would focus on the role of

[1041] Vanstappen op cit note 1 pgs. 22-23, referring to Chaturvedi op cit note 1 and Beck op cit note 1 pg. 255.

Antarctica in "climate change mitigation," referred to by Sidiropoulos & Wheeler above.[1042] The scientific evidence, gathered over decades, is incontrovertible that the Antarctic environment and weather systems are embedded in the heart of the world's weather systems in general, and in those of Africa in particular. Verbitsky succinctly summarises this, stating

> "Not only does Antarctica hold 90% of the world's ice and 70% of its fresh water, it is also integrally linked to the earth's climate and ocean systems. The continent's significance in scientific investigation of climate change cannot be overstated. The Intergovernmental Panel on Climate Change noted that the Arctic and Antarctic were 'the regions with the greatest potential to affect global climate and thus human populations and biodiversity'."[1043]

In other words, South Africa needs to raise the profile and champion the issue of the preservation of the Antarctic environment in Africa on the basis of, *inter alia*, the significant value this will bring to the mitigation of the negative impacts of climate change on the continent as well as the value it holds as a laboratory for research into climate change.[1044] The ASOS recognises this importance, summarising it succinctly thus:

> "Antarctica and the Southern Ocean play a significant role in the global climate system. The impact of the Southern Ocean in the global climate system is scaled by its uptake of 50% of the total ocean uptake of CO2 and 75% of the excess heat generated by anthropogenic CO2. It also provides the nutrients that support approximately 75% of global ocean primary productivity outside the Southern Ocean, some of which supports the rich fisheries around Southern Africa. It is therefore disproportionately important when it comes to buffering the global impacts of climate change. Regionally, the Southern Ocean also influences water security in SA by regulating water security through winter rainfall to the western and southern Cape as well as Gauteng through snow melt from the Drakensberg mountains."[1045]

The second leg is to support all other forms of beneficiation for other African states arising from Antarctic resources to the extent that this is consistent with the first leg. In other

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[1042] Sidiropoulos & Wheeler op cit note 452 pgs. 32-33.

[1043] Verbitsky op cit note 603 pg. 206, referring to SCAR. n.d. "Antarctic Climate Change and the Environment: Key Findings." Accessed June 5, 2014. http://www.scar.org/publications/occasionals/ACCE_top_10_points.pdf and IPCC, 2007: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Pachauri, RK and Reisinger, A. (eds.), IPCC, Geneva, Switzerland, https://www.ipcc.ch/report/ar4/syr/ pg. 655. May 2021.

[1044] "Today's research is providing evidence of the dramatic, sometimes irreversible changes that are occurring in the Antarctic, e.g. record high atmospheric temperatures and melting ice contributing to sea level rise, along with historical evidence of CO2 in the atmosphere and what this means for ocean pH and living organisms. This knowledge is both intrinsically scientifically valuable and of great utility in explaining or predicting global events." Jabour op cit note 54 pg. 18.

[1045] DEA ASOS op cit note 20 pg. 5. The draft ASOS phrased this slightly differently and in more general terms, emphasizing the importance of Antarctica for the world, not just South Africa. "The Southern Ocean is the site for the production of the coldest, densest water that participates in global ocean circulation and so is of critical importance to climate change. The strong westerly winds that blow over the Southern Ocean drive the world's largest and strongest current system, the Antarctic Circumpolar Current (ACC), and are recognized to be the dominant driving force for the global overturning circulation." DEA Draft ASOS op cit note 620 pg. 6.

words, to champion the cause of Africa to have its interests considered as part of "the interest of mankind as a whole" of which the Madrid Protocol speaks. For example, scientific research and the benefits arising therefrom, if they are truly to be considered in the interests of mankind as a whole, should be shared with mankind as a whole, not limited to the ATS states, and especially not limited to individual states within the ATS.

5.6 Conclusion

It is evident, therefore, that there is a synergy of interests. The value of Antarctica is undeniable. It is in the global interest to protect and preserve its environment. It is in South Africa's interest to protect and preserve its environment and it is also in the interests of Africa, as a continent, to do the same. Africa is not in a position to contribute in any way towards this self-preservation as it is almost entirely excluded from any influence or participation in the process by which Antarctica's environment is governed and protected. This is partially as a result of fundamental questions around the legitimacy of the ATS – both with regard to participation as well as a lack of effectiveness in the implementation of the steps necessary to achieve this. South Africa, as a founding Consultative Party is perfectly positioned to decolonise the ATS as a system of governance (and thus enhance its legitimacy, thereby increasing its effectiveness), and simultaneously to substantively decolonise Antarctica by spearheading the positive engagement of the rest of Africa in Antarctic affairs, providing access to the benefits of participation in the ATS and also acting to preserve the climate security of the continent – all within the parameters of its existing policies and strategic objectives, both scientific and political, domestically and regionally.

South Africa, at this juncture, thus should use its position at the heart of the ATS to work within its existing framework to strengthen the ATS and to help it evolve with a long-term view to eventually achieving a better, more legitimate, governance structure. This will not be easy as South Africa is, arguably, susceptible to external influence by nations which may have Antarctic interests contrary to South Africa's environmental protection agenda, like China and Russia, for example. In addition, should the prospect of, for example, mineral exploitation or other resource exploitation arise and Africa, at that juncture, still remains external to the ATS and thus not part of the environmental protection agenda of the ATS, it is arguable that South Africa will be susceptible to external influence by the rest of Africa. South Africa should thus, as part of working within the ATS to strengthen it, be proactive internationally in changing the attitude of Africa to Antarctica and domestically in protecting its Antarctic interests from negative external influence. Sidiropoulos and Wheeler are of the same view, noting that

> "The Antarctic Treaty System faces a number of challenges. An active South African political engagement in the various forums of the Antarctic Treaty System could see the country play a leading role in the evolution of the Treaty system in a manner that reflects South Africa's own objectives for a rules-based, equitable multilateral system that is inclusive, while also preserving a bio-diverse eco-system that has an important function in climate change mitigation."[1046]

South Africa's present policies with regard to Antarctic and the Southern Ocean have been discussed previously, but the implications for future policy development need to be briefly examined. As Sidiropoulos and Wheeler explain, Antarctica has not featured very highly on South Africa's policy agenda in recent years:

> "Since the end of apartheid Antarctica has not featured in a political sense in the government's thinking. This may be partly attributed to its glaring priorities in other regions, especially Africa. Furthermore, there has been an element of sea-blindness in South African policy circles. Until recently too little attention has been paid to South Africa's maritime advantage of straddling two oceans and having sovereignty over islands in the sub-Antarctic."[1047]

This, however, has changed recently and several positive steps have been taken towards giving Antarctica and the Southern Ocean the attention they deserve, including the formulation and then publication, on the 20th February 2020, of a draft Antarctica and

[1046] Sidiropoulos & Wheeler op cit note 452 pgs. 32-33.
[1047] Sidiropoulos & Wheeler op cit note 452 pg. 28. See also "Overall, Antarctica does not occupy a significant space in South Africa's foreign policy thinking. This is understandable in the post-1994 foreign policy landscape where South Africa sought to affirm its African identity, reinsert itself into the global community and tackle substantial socio-economic and political problems. Looking northwards to the rest of the African continent and to the East and West, it has not paid enough attention to the surrounding oceans and the landmass to its south." Sidiropoulos & Wheeler op cit note 452 pg. 33.

Southern Ocean Strategy (ASOS) by the Department of Environmental Affairs, calling for public comment. The Draft ASOS was subsequently approved, with some alterations, by Cabinet on the 2nd of December 2020, and was gazetted on the 19th March 2021.

It is from these, previously discussed, documents that we can extrapolate South Africa's future approach to Antarctica. In particular, the ASOS of the 19th March 2021 provides useful insight into South Africa's Antarctic aspirations, its attitude to Antarctica, as well as its perception of its future role in Antarctica and the Southern Ocean. Conservation and protection of the Antarctic environment, sustainable marine resource management and increasing its profile within the ATS seem to be objectives which the strategy aims to address:

> "The Strategy contributes to climate action … by recognising that the Antarctica and Southern Oceans are critically important parts of the global climate system, and thus support actions to conserve Antarctica and Southern Ocean.
> The Strategy contributes to … conservation and sustainable use of the oceans, seas and marine resources by advancing the importance of ecological integrity in Antarctica and the Southern Oceans, and promoting the establishment of specially protected and managed areas.
> In respect of revitalising the global partnership for sustainable development … the Strategy seeks to position South Africa to constructively influence the global negotiations under the Antarctic Treaty system and pursue collaborative work with other parties."[1048]

The final ASOS (2021), contains an implementation plan which envisages the steps necessary, over a five year period, to achieve the strategic objectives outlined in the ASOS. The ASOS is thus in its infancy, and only as the stages of implementation are commenced and rolled out will we be able to accurately gauge the impact that it will have.

As well as strengthening it, there is also a need to protect it from future potential threats, such as the threat of external influence on South African policy development. In a paper published by the South African Institute of International Affairs in 2018[1049] in which several aspects of South Africa's foreign policy were examined, it was noted that, in the years leading up to the 2019 general election

> "…the most notable achievements were South Africa joining the Brazil, Russia, India, China and South Africa (BRICS) grouping in 2011, as well as strengthening South Africa's relationship with China and continued the call for a more representative and equitable governance structure in global multilateral institutions like the World Trade Organisation and United Nations Security Council (UNSC)."[1050]

[1048] DEA ASOS op cit note 20 pgs. 4-5.
[1049] Mpungose L, "South Africa's foreign policy under Zuma: towards greater strategic partnerships" South African Institute of International Affairs (SAIIA), 2018.
[1050] Ibid pg. 1.

This has both positive and negative connotations for South Africa's Antarctic policy. Positively, it has opened up scope for the development of joint Antarctic research programmes, with Sidiropoulos and Wheeler noting that

> "Among the BRICS members there is a growing sense of the need to co-operate on issues related to the polar regions, whether through common research programmes, joint scientific expeditions or sharing data."[1051]

Negatively it places South Africa further under the influence of China. As the SAIIA report notes,

> "While economic and political relations continue to deepen with China, there is a relative decline in diplomatic and trade relations with the West, particularly with the United States of America (USA)."[1052]

Given the dubious and controversial, unexpressed, Chinese attitude to Antarctica,[1053] South Africa falling further under Chinese influence economically[1054] and politically[1055] is neither generally nor specifically, in respect of Antarctica, desirable.[1056] South Africa therefore needs to jealously guard its Antarctic policies from the possibility of external influence, as well as work towards positively influencing the attitudes and policies of the countries with which it interacts, with a specific focus on African nations. After all, as Sidiropoulos & Wheeler note,

> "Apart from bolstering the prestige of powerful states, the ability to influence the trajectory of the Antarctic Treaty System is important for a number of reasons: potential commercial exploitation; Antarctica's geographical advantages in terms of satellite monitoring; the recalibration by many maritime nations of their understanding of their geo-security space; and the continent's significant role in affecting the earth's climate."[1057]

[1051] Sidiropoulos & Wheeler op cit note 452 pg. 27, referring to Sakhuja V, "BRICS: The Oceanic Connection", Institute of Peace and Conflict Studies (IPCS), New Delhi, 4 August 2014. Such co-operation has already commenced with "…Antarctic personnel exchanges: Brazilian scientists participated in a South African expedition and a South African scientist participated in a Brazilian one." Sidiropoulos & Wheeler op cit note 452 pg. 27.
[1052] Ibid pg. 4.
[1053] See previous discussion and especially Brady op cit note 834.
[1054] "China has become South Africa's biggest trade partner." Sidiropoulos & Wheeler op cit note 452 pg. 4.
[1055] The South Africa's government's refusal of an entry visa to the Dalai Lama, under pressure from China to do so, is an example. See *Buthelezi & another v Minister of Home Affairs & others* (242/12) [2012] ZASCA 174 (29 November2012) and *Democratic Alliance v Minister of International Relations and Cooperation and Others (Council for the Advancement of the South African Constitution Intervening)* 2017 (3) SA 212 (GP).
[1056] Exactly the same concerns should be noted in respect of South Africa's relationship with Russia. Post the Russian invasion of the Ukraine, steadfast South African support for Russia has resulted in it becoming somewhat of a pariah internationally, while the Antarctic manifestation of this includes ongoing support for Russia's illegal Antarctic and Southern Ocean minerals prospecting project. The recent denial by the South African Minister of Forestry, Fisheries and the Environment, in response to a Parliamentary question, of any knowledge of the illegal Russian Antarctic prospecting activity refers. "The DFFE is not aware of any prospecting or seismic blasting along the east coast of Antarctica." Republic of South Africa, National Assembly, Internal question paper no. 1 of 2023, 9 February 2023. Question no. 23 {NW23E}.
[1057] Sidiropoulos & Wheeler op cit note 452 pg. 19.

In other words, in the important sphere of Antarctic policy and governance, South Africa needs to ensure it is not one of the countries susceptible to negative external influence, but is one of those providing a positive influence on the trajectory of the ATS.

The first part of this thesis provided some vital historical background information on Antarctica, necessary in order to place the current state of Antarctica and the issues facing it in context. The chapter outlined why some form of regulation of activities (mostly claims to territory and access to resources for exploitation) became necessary and how the Antarctic Treaty was negotiated in response to this need. A brief analysis of the salient points of the Antarctic Treaty was then provided, and some insight into how it is managed. The chapter went on to describe how the Antarctic Treaty has developed since its inception into the comprehensive system incorporating treaties, a Protocol and various agreed measures focused primarily on the environmental protection of Antarctica that is in operation today, before concluding with a brief description of one of the most concerning criticisms facing the ATS, namely doubts about its legitimacy and, consequently, effectiveness.

Chapter 3 described and examined South Africa's historical role in Antarctica. It is a long history and a unique one. It commenced by looking at South Africa position as a staging point for the early exploratory expeditions, then examined South Africa's involvement in the early exploitative years, primarily thorough the sealing and whaling industries, then its role as a 'gateway' for the 'heroic' period when men set out to conquer the continent. It went on to summarise the geopolitical machinations that resulted in South Africa being the only Southern Ocean rim country and the only sub-Antarctic territory-holding state that did not lay a claim to sovereignty over Antarctic territory. Furthermore, the chapter made the point that South Africa was also the only state that could have claimed sovereignty over Antarctic territory (the 'South African sector') on the same basis as the majority of other claimants, but which did not. Dodds provided erudite insight, from a geopolitical perspective and his excellent work on South Africa's early involvement[1058] established a firm foundation on which this chapter could build. This process was facilitated by Van der Watt, both her individual work[1059] and her work with Swart,[1060] which was particularly helpful.

The chapter then went on to describe, and analyse, the manner in which South Africa became scientifically involved in Antarctica to an extent that enabled it to become one of the founding parties to the Antarctic Treaty. This involved both participation in scientific activity on the Antarctic continent itself (the commonwealth Trans-Antarctic Expedition during the International Geophysical Year/International Polar Year and the establishment of a permanent year–round base on the continental mainland), and South Africa's involvement in scientific activity on the sub-Antarctic Prince Edward Islands. This necessitated a brief description of how South Africa came to claim sovereignty over these islands, without which South Africa's Antarctic Treaty participation may not have occurred. Cooper and Headland's

[1058] Dodds op cit note 307 pgs. 25-42.
[1059] Van der Watt op cit note 414 and Van der Watt op cit note 244 pgs. 72-93.
[1060] Van der Watt & Swart op cit note 350 pgs. 267-291.

definitive work[1061] in this area, supplemented of course by Dodds[1062] (again) and Van der Watt & Swart,[1063] provided the framework within which this chapter was able to develop in this regard.

Chapter 4 illustrated how South Africa, in the recent past, underwent a significant political transition which has had a significant impact on its Antarctic profile. This chapter thus continued its description and analysis of South Africa's historical role from this juncture. While there was some doubt about its ongoing commitment post 1994, South Africa continued, indeed renewed, its commitment to Antarctica. Instead of being a country on the brink of expulsion from the ATS (as demanded by the majority of nations in the UNGA over a period of two decades commencing in the early 1980s), it changed its status to being the only representative nation from the entire African continent. Thus, coupled with its positive scientific record and its experience of transformation and democratisation, it is currently, the chapter argues, uniquely placed to play a positive transformative role in the ATS. Of course, the role that South Africa might play depends on precisely what South Africa's current and proposed attitude to Antarctica and so a variety of policy documents, strategy documents, research plans and reviews relating directly to South Africa's National Antarctic Programme were described and analysed to provide insight in this regard. The work of Sidiropoulos & Wheeler, bringing a wealth of international geopolitical knowledge and an intimate knowledge of South Africa's recent involvement at the heart of the ATS, namely the ATCMs, was invaluable here and, together with parts of Van der Watt's thesis,[1064] their "To the ends of the earth: Antarctica, the Antarctic Treaty and South Africa" publication[1065] for the South African Institute of International Affairs provided invaluable context, insight and information. In addition, the chapter also briefly summarised the nature of South Africa's involvement in three important spheres of Antarctic scientific activity, namely its sub-Antarctic research centered on Marion Island, its Southern Ocean oceanographic research and its Antarctic continental research conducted at and from its SANAE base in Dronning Maud Land.[1066]

The final part of the thesis looked to the future and focused on what role South Africa could play in Antarctica's future. Chapter 5 therefore briefly set out some of the challenges facing the ATS. While much current literature focuses on the external challenges facing Antarctica as a continent (climate change, illegal fishing, overfishing for krill, tourism, bioprospecting, rapid infrastructural development, illegal mineral prospecting, etc.), the challenges focused upon in this thesis are the internal challenges directly affecting the primary mechanism by which these environmental challenges are addressed, i.e. challenges that undermine the

[1061] Cooper & Headland op cit note 350.
[1062] Dodds op cit note 307 pgs. 25-42.
[1063] Van der Watt & Swart op cit note 350 pgs. 267-291.
[1064] Van der Watt op cit note 414.
[1065] Sidiropoulos & Wheeler op cit note 452.
[1066] Cooper and Headland provided a useful starting point in this regard, see Cooper & Headland op cit note 350, as well as the first Prince Edward Islands Management Plan, specifically with regard to early research conducted on the Islands. See, DEAT op cit note 479.

efficient and effective functioning of the treaty system itself. The chapter identified that the ATS is suffering a crisis of legitimacy as a direct result of a lack of proper democratic functioning, the elitist nature of the current treaty structure, its lack of true international representativity (with entire regional blocks underrepresented), and the lingering sour taste of colonialism permeating the entire system hampering its functioning in the best interests of Antarctic environmental preservation.

So, it is clear that solutions are required to address the crisis of legitimacy facing the ATS, both with regard to its overall credibility of the ATS, and with regard to its increasing lack of effectiveness. The chapter argued that the Antarctic Treaty System's credibility, relevance and resilience, i.e. its legitimacy, can be improved by democratising and internationalising it – in other words by decolonialising it - by, *inter alia*, expanding its membership so that it is broader and more globally representative and less entrenched in the colonial elitism of its creation. The ATS needs to develop a membership that includes the developing world, but which at the same time is environmentally informed and invested in the long-term benefits of the preservation of Antarctica, not the short-term exploitation thereof.

This chapter therefore focused on the contribution that South Africa can make towards addressing some of the issues detracting from the legitimacy of the ATS. With regard to democratisation, internationalisation and the glaring absence of any participation by other countries in Africa, the chapter argued that South Africa, as the only African nation that has been an active participant in Antarctica throughout its history, as an original, founding party to the AT, as a respected participant in Antarctic governance and scientific research ever since, as a nation with first-hand experience of transformation and democratisation and which has a leading and influential political and economic presence in Africa, is ideally and uniquely placed to spearhead a move to increase positive African Antarctic participation.[1067] There is clear evidence, it was argued, that, on the strength of South Africa's recently approved Antarctic strategy document (ASOS) and other related policies, South Africa remains committed to Antarctica and also wishes to increase its Antarctic scientific research commitments, to provide leadership within the ATS, to act in the benefits of Antarctica and to help the ATS evolve in a manner that is more globally inclusive.

Vanstappen articulates the need for greater, and especially more diverse - regionally speaking – participation when he states that,

> "This perception of Antarctica as a region of global interest undoubtedly affects the normative framework relating to participation in the Antarctic; as all states are affected and/or concerned by issues of a global nature, participation should be designed in such a way that all states' views are represented (if not through direct participation, through regional representation or otherwise)."[1068]

[1067] Sidiropoulos & Wheeler argue along very similar lines and thus provided an excellent foundation for this approach and this thesis endorses their insightful suggestions in this regard. Sidiropoulos & Wheeler op cit note 452.
[1068] Vanstappen op cit note 1 pg. 23.

The chapter concluded that a number of steps, programmes and organisations (some of which are anticipated in the ASOS and others of which are suggested in the thesis), implementable by South Africa, could play a significant role in achieving this objective.

Taking these concrete steps, and thereby increasing African involvement in and membership of the ATS, would contribute significantly to addressing the crisis of legitimacy currently facing the ATS. Increased membership would ensure the ATS would be more representative of the marginalised and excluded nations of the world, especially those in Africa. Assisting other African nations in obtaining such membership would contribute to undoing the elitist tag that has for so long prevented poorer nations that cannot afford the high entry price from becoming members. Increasing membership will democratise the ATS as more nations would have a say and a vote in Antarctic governance. It would also help to break down, or at the very least, dilute the influence exercised by the territorial claimant states.

Finally, enhancing the perceived legitimacy of the ATS will bolster the effectiveness of the ATS. As Yermakova notes,

> "Thus, the higher degree of legitimacy of the ATS is, meaning the more moral reasons we have to support it, the more we should expect compliance with the regime's rules even if the content of those rules is not judged good or useful by those to whom the rules apply."[1069]

Because legitimacy and compliance are linked[1070] more nations will be inclined to follow the rules, policies and principles of the ATS – both because they are bound to do so and because of the moral imperative as they become increasingly isolated in the global community "... ensuring that international institutions are established and function in a legitimate manner could help ensure compliance with their rules."[1071]

However, chapter 5 went further than suggesting ways in which South Africa could assist in the formal decolonisation of the ATS, instead arguing that this is not sufficient. Antarctica itself, not just the method by which it is governed, needs to be substantively decolonised.

The chapter therefore concluded by arguing that access to the benefits of Antarctica, primary among which should be its environmental preservation, not just participation in the system of governance, also needs to be addressed. The formal decolonisation of the ATS will go a long way to achieving this, but substantively, it is argued, more needs to be done. South Africa's strategic objectives, outlined in the ASOS and analysed in this chapter, speak directly to this and thus, it is concluded, three important threads, the future of Antarctica,

[1069] Yermakova op cit note 18 pg. 28.
[1070] Although Vanstappen notes that making a direct causal connection is difficult, he adopts what he calls "a casuistic approach" and links "… specific instances of increased legitimacy to their (potential) effect on compliance." Vanstappen op cit note 1 pg. 5.
[1071] Ibid pg. 4.

South African interest in Antarctica's future protection, and the interests of those currently excluded from the ATS, in particular the rest of Africa's interests in Antarctica, are aligned. It would also provide access to additional resource benefits that Antarctica has to offer, presently denied to non-treaty parties, including the rest of Africa. This would also have the additional benefit of dealing with one of the other challenges facing Antarctica, namely the risk of a narrow and exploitative concept of common heritage gaining traction amongst nations marginalised from Antarctic participation.

Antarctica is crucial to the climatic well-being of the world. It is also minerally rich and rich in many other resources. However, its value as an unexploited environmentally protected space, at the heart of the world's climate systems and as the repository of 80% of the world's fresh water fresh water,[1072] in ice form, is delicately balanced against the attractions and dangers of short-term exploitation. Managing this balance is a complex task, economically and politically. Further, the system which attempts, mostly successfully, to do this is completely *sui generis* and while it has evolved and improved over time, it is beset by challenges. Some of these challenges are adjectival, in the sense that there are concerns about how the system of governance itself works, or doesn't work in some cases, and others challenges are more substantive in the sense that they represent threats to the integrity of the continent, the Southern Ocean and the broader Antarctic environment. Addressing both of these forms of challenges, which are bound up in each other, is now more pressing than ever. South Africa, it has been argued, is uniquely placed to intervene, because of its role at the heart of the ATS, because of its own recent transformative history, because of its geographic position on a continent consisting of the most excluded of nations and because doing so aligns with its own stated goals in terms of its Antarctic commitments, its environmental stance, its foreign policy and its own long-term environmental and climate interests.

The End

[1072] McIvor E, "Looking South: Antarctic Governance" in Couzens E & Honkonen T, (eds) International Environmental Law-Making and Diplomacy Review 2008, 139-152.

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Appendix I

THE ANTARCTIC TREATY[1073]

The Governments of Argentina, Australia, Belgium, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America,

Recognizing that it is in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

Acknowledging the substantial contributions to scientific knowledge resulting from international cooperation in scientific investigation in Antarctica;

Convinced that the establishment of a firm foundation for the continuation and development of such cooperation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind;

Convinced also that a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations;

Have agreed as follows:

ARTICLE I

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.

2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.

ARTICLE II

Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present Treaty.

ARTICLE III

1. In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the Contracting Parties agree that, to the greatest extent feasible and practicable:

   (a) information regarding plans for scientific programs in Antarctica shall be exchanged to permit maximum economy and efficiency of operations;

[1073] https://documents.ats.aq/keydocs/vol_1/vol1_2_AT_Antarctic_Treaty_e.pdf. July 2021.

(b) scientific personnel shall be exchanged in Antarctica between expeditions and stations;

(c) scientific observations and results from Antarctica shall be exchanged and made freely available.

2. In implementing this Article, every encouragement shall be given to the establishment of cooperative working relations with those Specialized Agencies of the United Nations and other international organizations having a scientific or technical interest in Antarctica.

ARTICLE IV

1. Nothing contained in the present Treaty shall be interpreted as:

(a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;

(b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;

(c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.

2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

ARTICLE V

1. Any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited.

2. In the event of the conclusion of international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, to which all of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX are parties, the rules established under such agreements shall apply in Antarctica.

ARTICLE VI

The provisions of the present Treaty shall apply to the area south of 60º South Latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the high seas within that area.

ARTICLE VII

1. In order to promote the objectives and ensure the observance of the provisions of the present Treaty, each Contracting Party whose representatives are entitled to participate in the meetings referred to in Article IX of the Treaty shall have the right to designate observers to carry out any inspection provided for by the present Article. Observers shall be nationals of the Contracting Parties which designate them. The names of observers shall be communicated to every other Contracting Party having the right to designate observers, and like notice shall be given of the termination of their appointment.

2. Each observer designated in accordance with the provisions of paragraph 1 of this Article shall have complete freedom of access at any time to any or all areas of Antarctica.

3. All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica, shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article.

4. Aerial observation may be carried out at any time over any or all areas of Antarctica by any of the Contracting Parties having the right to designate observers.

5. Each Contracting Party shall, at the time when the present Treaty enters into force for it, inform the other Contracting Parties, and thereafter shall give them notice in advance, of

   (a) all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory;

   (b) all stations in Antarctica occupied by its nationals; and

   (c) any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the present Treaty.

ARTICLE VIII

1. In order to facilitate the exercise of their functions under the present Treaty, and without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica, observers designated under paragraph 1 of Article VII and scientific personnel exchanged under subparagraph 1(b) of Article III of the Treaty, and members of the staffs accompanying any such persons, shall be subject only to the jurisdiction of the Contracting Party of which they are nationals in respect of all acts or omissions occurring while they are in Antarctica for the purpose of exercising their functions.

2. Without prejudice to the provisions of paragraph 1 of this Article, and pending the adoption of measures in pursuance of subparagraph 1(e) of Article IX, the Contracting Parties concerned in any case of dispute with regard to the exercise of jurisdiction in Antarctica shall immediately consult together with a view to reaching a mutually acceptable solution.

ARTICLE IX

1. Representatives of the Contracting Parties named in the preamble to the present Treaty shall meet at the City of Canberra within two months after the date of entry into force of the Treaty, and thereafter at suitable intervals and places, for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty, including measures regarding:

   (a) use of Antarctica for peaceful purposes only;

   (b) facilitation of scientific research in Antarctica;

   (c) facilitation of international scientific cooperation in Antarctica;

   (d) facilitation of the exercise of the rights of inspection provided for in Article VII of the Treaty;

   (e) questions relating to the exercise of jurisdiction in Antarctica;

   (f) preservation and conservation of living resources in Antarctica.

2. Each Contracting Party which has become a party to the present Treaty by accession under Article XIII shall be entitled to appoint representatives to participate in the meetings referred to in paragraph 1 of the present Article, during such time as that Contracting Party demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition.

3. Reports from the observers referred to in Article VII of the present Treaty shall be transmitted to the representatives of the Contracting Parties participating in the meetings referred to in paragraph 1 of the present Article.

4. The measures referred to in paragraph 1 of this Article shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate in the meetings held to consider those measures.

5. Any or all of the rights established in the present Treaty may be exercised as from the date of entry into force of the Treaty whether or not any measures facilitating the exercise of such rights have been proposed, considered or approved as provided in this Article.

ARTICLE X

Each of the Contracting Parties undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.

ARTICLE XI

1. If any dispute arises between two or more of the Contracting Parties concerning the interpretation or application of the present Treaty, those Contracting Parties shall

consult among themselves with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice.

2. Any dispute of this character not so resolved shall, with the consent, in each case, of all parties to the dispute, be referred to the International Court of Justice for settlement; but failure to reach agreement on reference to the International Court shall not absolve parties to the dispute from the responsibility of continuing to seek to resolve it by any of the various peaceful means referred to in paragraph 1 of this Article.

ARTICLE XII

1. (a) The present Treaty may be modified or amended at any time by unanimous agreement of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX. Any such modification or amendment shall enter into force when the depositary Government has received notice from all such Contracting Parties that they have ratified it.

   (b) Such modification or amendment shall thereafter enter into force as to any other Contracting Party when notice of ratification by it has been received by the depositary Government. Any such Contracting Party from which no notice of ratification is received within a period of two years from the date of entry into force of the modification or amendment in accordance with the provisions of subparagraph 1(a) of this Article shall be deemed to have withdrawn from the present Treaty on the date of the expiration of such period.

2. (a) If after the expiration of thirty years from the date of entry into force of the present Treaty, any of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX so requests by a communication addressed to the depositary Government, a Conference of all the Contracting Parties shall be held as soon as practicable to review the operation of the Treaty.

   (b) Any modification or amendment to the present Treaty which is approved at such a Conference by a majority of the Contracting Parties there represented, including a majority of those whose representatives are entitled to participate in the meetings provided for under Article IX, shall be communicated by the depositary Government to all the Contracting Parties immediately after the termination of the Conference and shall enter into force in accordance with the provisions of paragraph 1 of the present Article

   (c) If any such modification or amendment has not entered into force in accordance with the provisions of subparagraph 1(a) of this Article within a period of two years after the date of its communication to all the Contracting Parties, any Contracting Party may at any time after the expiration of that period give notice to the depositary Government of its withdrawal from the

present Treaty; and such withdrawal shall take effect two years after the receipt of the notice by the depositary Government.

ARTICLE XIII

1. The present Treaty shall be subject to ratification by the signatory States. It shall be open for accession by any State which is a Member of the United Nations, or by any other State which may be invited to accede to the Treaty with the consent of all the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX of the Treaty.

2. Ratification of or accession to the present Treaty shall be effected by each State in accordance with its constitutional processes.

3. Instruments of ratification and instruments of accession shall be deposited with the Government of the United States of America, hereby designated as the depositary Government.

4. The depositary Government shall inform all signatory and acceding States of the date of each deposit of an instrument of ratification or accession, and the date of entry into force of the Treaty and of any modification or amendment thereto.

5. Upon the deposit of instruments of ratification by all the signatory States, the present Treaty shall enter into force for those States and for States which have deposited instruments of accession. Thereafter the Treaty shall enter into force for any acceding State upon the deposit of its instrument of accession.

6. The present Treaty shall be registered by the depositary Government pursuant to Article 102 of the Charter of the United Nations.

ARTICLE XIV

The present Treaty, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to the Governments of the signatory and acceding States.

Appendix II

PROTOCOL ON ENVIRONMENTAL PROTECTION TO THE ANTARCTIC TREATY[1074]

PREAMBLE

The States Parties to this Protocol to the Antarctic Treaty, hereinafter referred to as the Parties,

Convinced of the need to enhance the protection of the Antarctic environment and dependent and associated ecosystems;

Convinced of the need to strengthen the Antarctic Treaty system so as to ensure that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

Bearing in mind the special legal and political status of Antarctica and the special responsibility of the Antarctic Treaty Consultative Parties to ensure that all activities in Antarctica are consistent with the purposes and principles of the Antarctic Treaty;

Recalling the designation of Antarctica as a Special Conservation Area and other measures adopted under the Antarctic Treaty system to protect the Antarctic environment and dependent and associated ecosystems;

Acknowledging further the unique opportunities Antarctica offers for scientific monitoring of and research on processes of global as well as regional importance;

Reaffirming the conservation principles of the Convention on the Conservation of Antarctic Marine Living Resources;

Convinced that the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole;

Desiring to supplement the Antarctic Treaty to this end;

Have agreed as follows:

For the purposes of this Protocol:

ARTICLE 1

Definitions

(a) "The Antarctic Treaty" means the Antarctic Treaty done at Washington on 1 December 1959;

(b) "Antarctic Treaty area" means the area to which the provisions of the Antarctic Treaty apply in accordance with Article VI of that Treaty;

[1074] https://documents.ats.aq/keydocs/vol_1/vol1_4_AT_Protocol_on_EP_e.pdf. July 2021.

(c) "Antarctic Treaty Consultative Meetings" means the meetings referred to in Article IX of the Antarctic Treaty;

(d) "Antarctic Treaty Consultative Parties" means the Contracting Parties to the Antarctic Treaty entitled to appoint representatives to participate in the meetings referred to in Article IX of that Treaty;

(e) "Antarctic Treaty system" means the Antarctic Treaty, the measures in effect under that Treaty, its associated separate international instruments in force and the measures in effect under those instruments;

(f) "Arbitral Tribunal" means the Arbitral Tribunal established in accordance with the Schedule to this Protocol, which forms an integral part thereof;

(g) "Committee" means the Committee for Environmental Protection established in accordance with Article 11.

ARTICLE 2

Objective and Designation

The Parties commit themselves to the comprehensive protection of the Antarctic environment and dependent and associated ecosystems and hereby designate Antarctica as a natural reserve, devoted to peace and science.

ARTICLE 3

Environmental Principles

1. The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.

2. To this end:

   (a) activities in the Antarctic Treaty area shall be planned and conducted so as to limit adverse impacts on the Antarctic environment and dependent and associated ecosystems;

   (b) activities in the Antarctic Treaty area shall be planned and conducted so as to avoid:

      (i) adverse effects on climate or weather patterns;

      (ii) significant adverse effects on air or water quality;

(iii) significant changes in the atmospheric, terrestrial (including aquatic), glacial or marine environments;

(iv) detrimental changes in the distribution, abundance or productivity of species or populations of species of fauna and flora;

(v) further jeopardy to endangered or threatened species or populations of such species; or

(vi) degradation of, or substantial risk to, areas of biological, scientific, historic, aesthetic or wilderness significance;

(c) activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research; such judgments shall take account of:

(i) the scope of the activity, including its area, duration and intensity;

(ii) the cumulative impacts of the activity, both by itself and in combination with other activities in the Antarctic Treaty area;

(iii) whether the activity will detrimentally affect any other activity in the Antarctic Treaty area;

(iv) whether technology and procedures are available to provide for environmentally safe operations;

(v) whether there exists the capacity to monitor key environmental parameters and ecosystem components so as to identify and provide early warning of any adverse effects of the activity and to provide for such modification of operating procedures as may be necessary in the light of the results of monitoring or increased knowledge of the Antarctic environment and dependent and associated ecosystems; and

(vi) whether there exists the capacity to respond promptly and effectively to accidents, particularly those with potential environmental effects;

(d) regular and effective monitoring shall take place to allow assessment of the impacts of ongoing activities, including the verification of predicted impacts;

(e) regular and effective monitoring shall take place to facilitate early detection of the possible unforeseen effects of activities carried on both within and outside the Antarctic Treaty area on the Antarctic environment and dependent and associated ecosystems.

3. Activities shall be planned and conducted in the Antarctic Treaty area so as to accord priority to scientific research and to preserve the value of Antarctica as an area for the conduct of such research, including research essential to understanding the global environment.

4. Activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required in accordance with Article VII (5) of the Antarctic Treaty, including associated logistic support activities, shall:

   (a) take place in a manner consistent with the principles in this Article; and

   (b) be modified, suspended or cancelled if they result in or threaten to result in impacts upon the Antarctic environment or dependent or associated ecosystems inconsistent with those principles.

ARTICLE 4

Relationship with the other Components of the Antarctic Treaty system

1. This Protocol shall supplement the Antarctic Treaty and shall neither modify nor amend that Treaty.

2. Nothing in this Protocol shall derogate from the rights and obligations of the Parties to this Protocol under the other international instruments in force within the Antarctic Treaty system.

ARTICLE 5

Consistency with the other Components of the Antarctic Treaty system

The Parties shall consult and co-operate with the Contracting Parties to the other international instruments in force within the Antarctic Treaty system and their respective institutions with a view to ensuring the achievement of the objectives and principles of this Protocol and avoiding any interference with the achievement of the objectives and principles of those instruments or any inconsistency between the implementation of those instruments and of this Protocol.

ARTICLE 6

Co-operation

1. The Parties shall co-operate in the planning and conduct of activities in the Antarctic Treaty area. To this end, each Party shall endeavour to:

   (a) promote co-operative programmes of scientific, technical and educational value, concerning the protection of the Antarctic environment and dependent and associated ecosystems;

   (b) provide appropriate assistance to other Parties in the preparation of environmental impact assessments;

(c) provide to other Parties upon request information relevant to any potential environmental risk and assistance to minimize the effects of accidents which may damage the Antarctic environment or dependent and associated ecosystems;

(d) consult with other Parties with regard to the choice of sites for prospective stations and other facilities so as to avoid the cumulative impacts caused by their excessive concentration in any location;

(e) where appropriate, undertake joint expeditions and share the use of stations and other facilities; and

(f) carry out such steps as may be agreed upon at Antarctic Treaty Consultative Meetings.

2. Each Party undertakes, to the extent possible, to share information that may be helpful to other Parties in planning and conducting their activities in the Antarctic Treaty area, with a view to the protection of the Antarctic environment and dependent and associated ecosystems.

3. The Parties shall co-operate with those Parties which may exercise jurisdiction in areas adjacent to the Antarctic Treaty area with a view to ensuring that activities in the Antarctic Treaty area do not have adverse environmental impacts on those areas.

ARTICLE 7

Prohibition of Mineral Resource Activities

Any activity relating to mineral resources, other than scientific research, shall be prohibited.

ARTICLE 8

Environmental Impact Assessment

1. Proposed activities referred to in paragraph 2 below shall be subject to the procedures set out in Annex I for prior assessment of the impacts of those activities on the Antarctic environment or on dependent or associated ecosystems according to whether those activities are identified as having:

(a) less than a minor or transitory impact;

(b) a minor or transitory impact; or

(c) more than a minor or transitory impact.

2. Each Party shall ensure that the assessment procedures set out in Annex I are applied in the planning processes leading to decisions about any activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic

Treaty area for which advance notice is required under Article VII (5) of the Antarctic Treaty, including associated logistic support activities.

3. The assessment procedures set out in Annex I shall apply to any change in an activity whether the change arises from an increase or decrease in the intensity of an existing activity, from the addition of an activity, the decommissioning of a facility, or otherwise.

4. Where activities are planned jointly by more than one Party, the Parties involved shall nominate one of their number to coordinate the implementation of the environmental impact assessment procedures set out in Annex I.

ARTICLE 9

Annexes

1. The Annexes to this Protocol shall form an integral part thereof.

2. Annexes, additional to Annexes I-IV, may be adopted and become effective in accordance with Article IX of the Antarctic Treaty.

3. Amendments and modifications to Annexes may be adopted and become effective in accordance with Article IX of the Antarctic Treaty, provided that any Annex may itself make provision for amendments and modifications to become effective on an accelerated basis.

4. Annexes and any amendments and modifications thereto which have become effective in accordance with paragraphs 2 and 3 above shall, unless an Annex itself provides otherwise in respect of the entry into effect of any amendment or modification thereto, become effective for a Contracting Party to the Antarctic Treaty which is not an Antarctic Treaty Consultative Party, or which was not an Antarctic Treaty Consultative Party at the time of the adoption, when notice of approval of that Contracting Party has been received by the Depository.

5. Annexes shall, except to the extent that an Annex provides otherwise, be subject to the procedures for dispute settlement set out in Articles 18 to 20.

ARTICLE 10

Antarctic Treaty Consultative Meetings

1. Antarctic Treaty Consultative Meetings shall, drawing upon the best scientific and technical advice available:

   (a) define, in accordance with the provisions of this Protocol, the general policy for the comprehensive protection of the Antarctic environment and dependent and associated ecosystems; and

(b) adopt measures under Article IX of the Antarctic Treaty for the implementation of this Protocol.

2. Antarctic Treaty Consultative Meetings shall review the work of the Committee and shall draw fully upon its advice and recommendations in carrying out the tasks referred to in paragraph 1 above, as well as upon the advice of the Scientific Committee on Antarctic Research.

ARTICLE 11

Committee for Environmental Protection

1. There is hereby established the Committee for Environmental Protection.

2. Each Party shall be entitled to be a member of the Committee and to appoint a representative who may be accompanied by experts and advisers.

3. Observer status in the Committee shall be open to any Contracting Party to the Antarctic Treaty which is not a Party to this Protocol.

4. The Committee shall invite the President of the Scientific Committee on Antarctic Research and the Chairman of the Scientific Committee for the Conservation of Antarctic Marine Living Resources to participate as observers at its sessions. The Committee may also, with the approval of the Antarctic Treaty Consultative Meeting, invite such other relevant scientific, environmental and technical organisations which can contribute to its work to participate as observers at its sessions.

5. The Committee shall present a report on each of its sessions to the Antarctic Treaty Consultative Meeting. The report shall cover all matters considered at the session and shall reflect the views expressed. The report shall be circulated to the Parties and to observers attending the session, and shall thereupon be made publicly available.

6. The Committee shall adopt its rules of procedure which shall be subject to approval by the Antarctic Treaty Consultative Meeting.

ARTICLE 12

Functions of the Committee

1. The functions of the Committee shall be to provide advice and formulate recommendations to the Parties in connection with the implementation of this Protocol, including the operation of its Annexes, for consideration at Antarctic Treaty Consultative Meetings, and to perform such other functions as may be referred to it by the Antarctic Treaty Consultative Meetings. In particular, it shall provide advice on:

(a) the effectiveness of measures taken pursuant to this Protocol;

(b) the need to update, strengthen or otherwise improve such measures;

(c) the need for additional measures, including the need for additional Annexes, where appropriate;

(d) the application and implementation of the environmental impact assessment procedures set out in Article 8 and Annex I;

(e) means of minimising or mitigating environmental impacts of activities in the Antarctic Treaty area;

(f) procedures for situations requiring urgent action, including response action in environmental emergencies;

(g) the operation and further elaboration of the Antarctic Protected Area system;

(h) inspection procedures, including formats for inspection reports and checklists for the conduct of inspections;

(i) the collection, archiving, exchange and evaluation of information related to environmental protection;

(j) the state of the Antarctic environment; and

(k) the need for scientific research, including environmental monitoring, related to the implementation of this Protocol.

2. In carrying out its functions, the Committee shall, as appropriate, consult with the Scientific Committee on Antarctic Research, the Scientific Committee for the Conservation of Antarctic Marine Living Resources and other relevant scientific, environmental and technical organizations.

ARTICLE 13

Compliance with this Protocol

1. Each Party shall take appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures, to ensure compliance with this Protocol.

2. Each Party shall exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity contrary to this Protocol.

3. Each Party shall notify all other Parties of the measures it takes pursuant to paragraphs 1 and 2 above.

4. Each Party shall draw the attention of all other Parties to any activity which in its opinion affects the implementation of the objectives and principles of this Protocol.

5. The Antarctic Treaty Consultative Meetings shall draw the attention of any State which is not a Party to this Protocol to any activity undertaken by that State, its agencies, instrumentalities, natural or juridical persons, ships, aircraft or other

means of transport which affects the implementation of the objectives and principles of this Protocol.

ARTICLE 14

Inspection

1. In order to promote the protection of the Antarctic environment and dependent and associated ecosystems, and to ensure compliance with this Protocol, the Antarctic Treaty Consultative Parties shall arrange, individually or collectively, for inspections by observers to be made in accordance with Article VII of the Antarctic Treaty.

2. Observers are:

   (a) observers designated by any Antarctic Treaty Consultative Party who shall be nationals of that Party; and

   (b) any observers designated at Antarctic Treaty Consultative Meetings to carry out inspections under procedures to be established by an Antarctic Treaty Consultative Meeting.

3. Parties shall co-operate fully with observers undertaking inspections, and shall ensure that during inspections, observers are given access to all parts of stations, installations, equipment, ships and aircraft open to inspection under Article VII (3) of the Antarctic Treaty, as well as to all records maintained thereon which are called for pursuant to this Protocol.

4. Reports of inspections shall be sent to the Parties whose stations, installations, equipment, ships or aircraft are covered by the reports. After those Parties have been given the opportunity to comment, the reports and any comments thereon shall be circulated to all the Parties and to the Committee, considered at the next Antarctic Treaty Consultative Meeting, and thereafter made publicly available.

ARTICLE 15

Emergency Response Action

1. In order to respond to environmental emergencies in the Antarctic Treaty area, each Party agrees to:

   (a) provide for prompt and effective response action to such emergencies which might arise in the performance of scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required under Article VII (5) of the Antarctic Treaty, including associated logistic support activities; and

   (b) establish contingency plans for response to incidents with potential adverse effects on the Antarctic environment or dependent and associated ecosystems.

2. To this end, the Parties shall:

   (a) co-operate in the formulation and implementation of such contingency plans; and

   (b) establish procedures for immediate notification of, and co-operative response to, environmental emergencies.

3. In the implementation of this Article, the Parties shall draw upon the advice of the appropriate international organisations.

ARTICLE 16

Liability

Consistent with the objectives of this Protocol for the comprehensive protection of the Antarctic environment and dependent and associated ecosystems, the Parties undertake to elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic Treaty area and covered by this Protocol. Those rules and procedures shall be included in one or more Annexes to be adopted in accordance with Article 9 (2).

ARTICLE 17

Annual Report by Parties

1. Each Party shall report annually on the steps taken to implement this Protocol. Such reports shall include notifications made in accordance with Article 13 (3), contingency plans established in accordance with Article 15 and any other notifications and information called for pursuant to this Protocol for which there is no other provision concerning the circulation and exchange of information.

2. Reports made in accordance with paragraph 1 above shall be circulated to all Parties and to the Committee, considered at the next Antarctic Treaty Consultative Meeting, and made publicly available.

ARTICLE 18

Dispute Settlement

If a dispute arises concerning the interpretation or application of this Protocol, the parties to the dispute shall, at the request of any one of them, consult among themselves as soon as possible with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means to which the parties to the dispute agree.

ARTICLE 19

Choice of Dispute Settlement Procedure

1. Each Party, when signing, ratifying, accepting, approving or acceding to this Protocol, or at any time thereafter, may choose, by written declaration, one or both of the following means for the settlement of disputes concerning the interpretation or application of Articles 7, 8 and 15 and, except to the extent that an Annex provides otherwise, the provisions of any Annex and, insofar as it relates to these Articles and provisions, Article 13:

   (a) the International Court of Justice;

   (b) the Arbitral Tribunal.

2. A declaration made under paragraph 1 above shall not affect the operation of Article 18 and Article 20 (2).

3. A Party which has not made a declaration under paragraph 1 above or in respect of which a declaration is no longer in force shall be deemed to have accepted the competence of the Arbitral Tribunal.

4. If the parties to a dispute have accepted the same means for the settlement of a dispute, the dispute may be submitted only to that procedure, unless the parties otherwise agree.

5. If the parties to a dispute have not accepted the same means for the settlement of a dispute, or if they have both accepted both means, the dispute may be submitted only to the Arbitral Tribunal, unless the parties otherwise agree.

6. A declaration made under paragraph 1 above shall remain in force until it expires in accordance with its terms or until three months after written notice of revocation has been deposited with the Depositary.

7. A new declaration, a notice of revocation or the expiry of a declaration shall not in any way affect proceedings pending before the International Court of Justice or the Arbitral Tribunal, unless the parties to the dispute otherwise agree.

8. Declarations and notices referred to in this Article shall be deposited with the Depositary who shall transmit copies thereof to all Parties.

ARTICLE 20

Dispute Settlement Procedure

1. If the parties to a dispute concerning the interpretation or application of Articles 7, 8 or 15 or, except to the extent that an Annex provides otherwise, the provisions of any Annex or, insofar as it relates to these Articles and provisions, Article 13, have not agreed on a means for resolving it within 12 months of the request for consultation pursuant to Article 18, the dispute shall be referred, at the request of any party to the dispute, for settlement in accordance with the procedure determined by Article 19 (4) and (5).

2. The Arbitral Tribunal shall not be competent to decide or rule upon any matter within the scope of Article IV of the Antarctic Treaty. In addition, nothing in this Protocol shall be interpreted as conferring competence or jurisdiction on the International Court of Justice or any other tribunal established for the purpose of settling disputes between Parties to decide or otherwise rule upon any matter within the scope of Article IV of the Antarctic Treaty.

ARTICLE 21

Signature

This Protocol shall be open for signature at Madrid on the 4th of October 1991 and thereafter at Washington until the 3rd of October 1992 by any State which is a Contracting Party to the Antarctic Treaty.

ARTICLE 22

Ratification, Acceptance, Approval or Accession

1. This Protocol is subject to ratification, acceptance or approval by signatory States.

2. After the 3rd of October 1992 this Protocol shall be open for accession by any State which is a Contracting Party to the Antarctic Treaty.

3. Instruments of ratification, acceptance, approval or accession shall be deposited with the Government of the United States of America, hereby designated as the Depositary.

4. After the date on which this Protocol has entered into force, the Antarctic Treaty Consultative Parties shall not act upon a notification regarding the entitlement of a Contracting Party to the Antarctic Treaty to appoint representatives to participate in Antarctic Treaty Consultative Meetings in accordance with Article IX (2) of the Antarctic Treaty unless that Contracting Party has first ratified, accepted, approved or acceded to this Protocol.

ARTICLE 23

Entry into Force

1. This Protocol shall enter into force on the thirtieth day following the date of deposit of instruments of ratification, acceptance, approval or accession by all States which are Antarctic Treaty Consultative Parties at the date on which this Protocol is adopted.

2. For each Contracting Party to the Antarctic Treaty which, subsequent to the date of entry into force of this Protocol, deposits an instrument of ratification, acceptance, approval or accession, this Protocol shall enter into force on the thirtieth day following such deposit.

ARTICLE 24

Reservations

Reservations to this Protocol shall not be permitted.

ARTICLE 25

Modification or Amendment

1. Without prejudice to the provisions of Article 9, this Protocol may be modified or amended at any time in accordance with the procedures set forth in Article XII (1) (a) and (b) of the Antarctic Treaty.

2. If, after the expiration of 50 years from the date of entry into force of this Protocol, any of the Antarctic Treaty Consultative Parties so requests by a communication addressed to the Depositary, a conference shall be held as soon as practicable to review the operation of this Protocol.

3. A modification or amendment proposed at any Review Conference called pursuant to paragraph 2 above shall be adopted by a majority of the Parties, including 3/4 of the States which are Antarctic Treaty Consultative Parties at the time of adoption of this Protocol.

4. A modification or amendment adopted pursuant to paragraph 3 above shall enter into force upon ratification, acceptance, approval or accession by 3/4 of the Antarctic Treaty Consultative Parties, including ratification, acceptance, approval or accession by all States which are Antarctic Treaty Consultative Parties at the time of adoption of this Protocol.

5. (a) With respect to Article 7, the prohibition on Antarctic mineral resource activities contained therein shall continue unless there is in force a binding legal regime on Antarctic mineral resource activities that includes an agreed means for determining whether, and, if so, under which conditions, any such activities would be acceptable. This regime shall fully safeguard the interests of all States referred to in Article IV of the Antarctic Treaty and apply the principles thereof. Therefore, if a modification or amendment to Article 7 is proposed at a Review Conference referred to in paragraph 2 above, it shall include such a binding legal regime.

   (b) If any such modification or amendment has not entered into force within 3 years of the date of its adoption, any Party may at any time thereafter notify to the Depositary of its withdrawal from this Protocol, and such withdrawal shall take effect 2 years after receipt of the notification by the Depositary.

ARTICLE 26

Notifications by the Depositary

The Depositary shall notify all Contracting Parties to the Antarctic Treaty of the following:

1. signatures of this Protocol and the deposit of instruments of ratification, acceptance, approval or accession;

2. the date of entry into force of this Protocol and any additional Annex thereto;

3. the date of entry into force of any amendment or modification to this Protocol;

4. the deposit of declarations and notices pursuant to Article 19; and

5. any notification received pursuant to Article 25 (5) (b).

ARTICLE 27

Authentic Texts and Registration with the United Nations

1. This Protocol, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to all Contracting Parties to the Antarctic Treaty.

2. This Protocol shall be registered by the Depositary pursuant to Article 102 of the Charter of the United Nations.

SCHEDULE TO THE PROTOCOL

Arbitration

ARTICLE 1

1. The Arbitral Tribunal shall be constituted and shall function in accordance with the Protocol, including this Schedule.

2. The Secretary referred to in this Schedule is the Secretary General of the Permanent Court of Arbitration.

ARTICLE 2

1. Each Party shall be entitled to designate up to three Arbitrators, at least one of whom shall be designated within three months of the entry into force of the Protocol for that Party. Each Arbitrator shall be experienced in Antarctic affairs, have thorough knowledge of international law and enjoy the highest reputation for fairness, competence and integrity. The names of the persons so designated shall constitute the list of Arbitrators. Each Party shall at all times maintain the name of at least one Arbitrator on the list.

2. Subject to paragraph 3 below, an Arbitrator designated by a Party shall remain on the list for a period of five years and shall be eligible for redesignation by that Party for additional five year periods.

3. A Party which designated an Arbitrator may withdraw the name of that Arbitrator from the list. If an Arbitrator dies or if a Party for any reason withdraws from the list the name of an Arbitrator designated by it, the Party which designated the Arbitrator in question shall notify the Secretary promptly. An Arbitrator whose name is withdrawn from the list shall continue to serve on any Arbitral Tribunal to which that Arbitrator has been appointed until the completion of proceedings before the Arbitral Tribunal.

4. The Secretary shall ensure that an up-to-date list is maintained of the Arbitrators designated pursuant to this Article.

ARTICLE 3

1. The Arbitral Tribunal shall be composed of three Arbitrators who shall be appointed as follows:

   (a) The party to the dispute commencing the proceedings shall appoint one Arbitrator, who may be its national, from the list referred to in Article

   (b) Within 40 days of the receipt of that notification, the other party to the dispute shall appoint the second Arbitrator, who may be its national, from the list referred to in Article 2.

   (c) Within 60 days of the appointment of the second Arbitrator, the parties to the dispute shall appoint by agreement the third Arbitrator from the list referred to in Article 2.

   The third Arbitrator shall not be either a national of a party to the dispute, or a person designated for the list referred to in Article 2 by a party to the dispute, or of the same nationality as either of the first two Arbitrators. The third Arbitrator shall be the Chairperson of the Arbitral Tribunal.

   (d) If the second Arbitrator has not been appointed within the prescribed period, or if the parties to the dispute have not reached agreement within the prescribed period on the appointment of the third Arbitrator, the Arbitrator or Arbitrators shall be appointed, at the request of any party to the dispute and within 30 days of the receipt of such request, by the President of the International Court of Justice from the list referred to in Article 2 and subject to the conditions prescribed in subparagraphs (b) and (c) above. In performing the functions accorded him or her in this subparagraph, the President of the Court shall consult the parties to the dispute.

   (e) If the President of the International Court of Justice is unable to perform the functions accorded him or her in subparagraph (d) above or is a national of a party to the dispute, the functions shall be performed by the Vice-President

of the Court, except that if the Vice-President is unable to perform the functions or is a national of a party to the dispute the functions shall be performed by the next most senior member of the Court who is available and is not a national of a party to the dispute.

2. Any vacancy shall be filled in the manner prescribed for the initial appointment.

3. In any dispute involving more than two Parties, those Parties having the same interest shall appoint one Arbitrator by agreement within the period specified in paragraph l (b) above.

ARTICLE 4

The party to the dispute commencing proceedings shall so notify the other party or parties to the dispute and the Secretary in writing. Such notification shall include a statement of the claim and the grounds on which it is based. The notification shall be transmitted by the Secretary to all Parties.

ARTICLE 5

1. Unless the parties to the dispute agree otherwise, arbitration shall take place at The Hague, where the records of the Arbitral Tribunal shall be kept. The Arbitral Tribunal shall adopt its own rules of procedure. Such rules shall ensure that each party to the dispute has a full opportunity to be heard and to present its case and shall also ensure that the proceedings are conducted expeditiously.

2. The Arbitral Tribunal may hear and decide counterclaims arising out of the dispute.

ARTICLE 6

1. The Arbitral Tribunal, where it considers that *prima facie* it has jurisdiction under the Protocol, may:

   (a) at the request of any party to a dispute, indicate such provisional measures as it considers necessary to preserve the respective rights of the parties to the dispute;

   (b) prescribe any provisional measures which it considers appropriate under the circumstances to prevent serious harm to the Antarctic environment or dependent or associated ecosystems.

2. The parties to the dispute shall comply promptly with any provisional measures prescribed under paragraph 1 (b) above pending an award under Article 10.

3. Notwithstanding the time period in Article 20 of the Protocol, a party to a dispute may at any time, by notification to the other party or parties to the dispute and to the Secretary in accordance with Article 4, request that the Arbitral Tribunal be

constituted as a matter of exceptional urgency to indicate or prescribe emergency provisional measures in accordance with this Article. In such case, the Arbitral Tribunal shall be constituted as soon as possible in accordance with Article 3, except that the time periods in Article 3 (1) (b), (c) and (d) shall be reduced to 14 days in each case. The Arbitral Tribunal shall decide upon the request for emergency provisional measures within two months of the appointment of its Chairperson.

4. Following a decision by the Arbitral Tribunal upon a request for emergency provisional measures in accordance with paragraph 3 above, settlement of the dispute shall proceed in accordance with Articles 18, 19 and 20 of the Protocol.

ARTICLE 7

Any Party which believes it has a legal interest, whether general or individual, which may be substantially affected by the award of an Arbitral Tribunal, may, unless the Arbitral Tribunal decides otherwise, intervene in the proceedings.

ARTICLE 8

The parties to the dispute shall facilitate the work of the Arbitral Tribunal and, in particular, in accordance with their law and using all means at their disposal, shall provide it with all relevant documents and information, and enable it, when necessary, to call witnesses or experts and receive their evidence.

ARTICLE 9

If one of the parties to the dispute does not appear before the Arbitral Tribunal or fails to defend its case, any other party to the dispute may request the Arbitral Tribunal to continue the proceedings and make its award.

ARTICLE 10

1. The Arbitral Tribunal shall, on the basis of the provisions of the Protocol and other applicable rules and principles of international law that are not incompatible with such provisions, decide such disputes as are submitted to it.

2. The Arbitral Tribunal may decide, *ex aequo et bono*, a dispute submitted to it, if the parties to the dispute so agree.

ARTICLE 11

1. Before making its award, the Arbitral Tribunal shall satisfy itself that it has competence in respect of the dispute and that the claim or counterclaim is well founded in fact and law.

2. The award shall be accompanied by a statement of reasons for the decision and shall be communicated to the Secretary who shall transmit it to all Parties.

3. The award shall be final and binding on the parties to the dispute and on any Party which intervened in the proceedings and shall be complied with without delay. The Arbitral Tribunal shall interpret the award at the request of a party to the dispute or of any intervening Party.

4. The award shall have no binding force except in respect of that particular case.

5. Unless the Arbitral Tribunal decides otherwise, the expenses of the Arbitral Tribunal, including the remuneration of the Arbitrators, shall be borne by the parties to the dispute in equal shares.

ARTICLE 12

All decisions of the Arbitral Tribunal, including those referred to in Articles 5, 6 and 11, shall be made by a majority of the Arbitrators who may not abstain from voting.

ARTICLE 13

1. This Schedule may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty. Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Schedule which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

Appendix III

ETHICAL CLEARANCE

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

Mr Adrian H Bellengere (881130908)
School Of Law
Howard College

Dear Mr Adrian H Bellengere,

Original application number: 00026021
Project title: South Africa and the decolonisation of the Antarctic Treaty System

Exemption from Ethics Review

In response to your application received on 10 September 2024 , your school has indicated that the protocol has been granted **EXEMPTION FROM ETHICS REVIEW.**

Any alteration/s to the exempted research protocol, e.g., Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through an amendment/modification prior to its implementation. The original exemption number must be cited.

For any changes that could result in potential risk, an ethics application including the proposed amendments must be submitted to the relevant UKZN Research Ethics Committee. The original exemption number must be cited.

In case you have further queries, please quote the above reference number.

PLEASE NOTE:
Research data should be securely stored in the discipline/department for a period of 5 years. I

take this opportunity of wishing you everything of the best with your study.

[redacted]

Yours sincerely,

Mr Matthew Blain Kimble
pp Academic Leader Research School Of Law