

The Future History of the Antarctic Treaty

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Introduction

Since 1959 the Antarctic Treaty System has come to be regarded as a model of coordinated scientific effort marked by a spirit of international cooperation unparalleled in the political world.

As Hillary Clinton observed at the opening of the Antarctic Consultative Meeting in Baltimore in April 2009,

“The Antarctic Treaty stands as an example of how agreements for one age can serve the world in another, and how when nations can work together at their best the benefits are felt not only by their own people but by all people and by succeeding generations... the treaty is a blueprint for the kind of international cooperation that will be needed more and more to address the challenges of the 21st century, and it is an example of smart power at its best”.(1)

However, at 50 years of age the Antarctic Treaty System (ATS) is showing signs of stress and its days as a viable system appear fraught with challenges from new players on the international scene and imperilled by increasing demands on ever-decreasing global resources.

At 50 the ATS is operating in a global climate that is vastly removed from the context in which it was born as a pragmatic answer to the problems of that time.

That the ATS failed to address the issues of the time, rather shelving them in the expectation of buying time and the hope that they would work themselves out, is at the heart of its dilemma.

The problems then, as now, are the question of ownership of land (sovereignty) and the question of exploitation of the land (resources).

I will examine the challenges to the ATS under two headings;

1. Sovereignty
2. Resources

(1) United States hosts Antarctic Treaty parties; Secretary of State discusses Polar issues (American Journal of International Law, July 2009)

1. Sovereignty Issues

This challenge refers to a range of sovereignty issues including;

- ATS and challenges posed by nation-states on the developing side of the North-South dialogue.
- Activities and territorial claims made by non ATS-contracting parties.

2. Mineral Resources

This challenge refers to resources which can be categorised under;

- Hydrocarbons
- Hard Rock Minerals

The two challenges are understandably closely inter-connected.

In an increasingly resource-depleted world the prospect of reaping, or at least taking a portion of the benefits of what Antarctica has to offer is simply a commonsense reality for all national leaders acting rationally.

That Antarctica is owned by no one, but is effectively classified as a Global Commons, makes this proposition all the more compelling.

That the question of sovereignty has not been addressed by the ATS, never mind resolved, has created a groundswell of uncertainty and ill-ease among many would be players on the global scene.

Consequently, the vague “non-system” that surrounds the question of Antarctic sovereignty invites speculation and intrigue.

It also harbours within itself the capacity to bring down the ATS.

The direction of this thesis is that the ATS has the seeds of its own destruction embedded in its in-built avoidance of the fundamental question of sovereignty.

By creating an area of ‘non-sovereignty’ and the consequent uncertainty that entails, the ATS has put Antarctica in the effective position as a “Global Commons”- owned by no-one and yet by everyone.

Subscribing to the view espoused in Garrett Hardin's "The Tragedy of the Commons" it appears inevitable that the "commons" will be destroyed by rational actors acting out of self-interest. (2)

Antarctica is the epitome of the "commons" and consequently ripe for developing into the "tragedy".

The fact that the ATS now encompasses 47 nations and there is an ever-increasing number of permanent bases on the continent is reflective of the fact that Antarctic resources are looking increasingly appealing and retrievable. Albeit, this *realpolitik* explanation for nations establishing bases in Antarctica is never admitted to publicly.

To suggest the proliferating presence of nations currently in Antarctica is wholly ongoing from the perspective of advancing mankind and science is naïve and merely invites the onset of the tragedy of the commons.

China has openly stated expectations for exploiting Antarctic krill.

The Antarctic summer of 2009-2010 saw the start of a Chinese five-year marine survey project. This in itself is not out of the ordinary, however, of significance is a report from Australian journalist Jo Chandler who was at Casey Base when the Chinese delegation led by the Minister for Land and Resources, Xu Shaoshi was in attendance.

Xu Shaoshi declined to speak to Chandler, but the director of China's Polar Programme, Qu Tanzhou, made the following frank and probably unwitting admission as to China's rationale behind its scientific programme,

"Also, we are here about the potential of the resources and how to use these resources."(3)

The recent opening of the Chinese base at Kunlun Station and this apparently unwitting admission by the Director of China's Polar Programme that China is interested in krill protein harvesting is no surprise given China's pragmatism in dealing with feeding its people by annexing land and resources.

(2) Hardin, Garrett "The Tragedy of the Commons," Science, 162 (1968):1243-1248.

(3) Yam, Philip Is it Time to Kill the Antarctic Treaty? (Scientific American, 2008)

China's international public relations problems in annexing both Tibet and Xinjiang Autonomous Uighur Region in its far Islamic west have proven vexatious in terms of dislocating a local population and hugely damaging to China's international image.

While the task of harnessing Antarctic resource is infinitely more challenging on a technical level, it must be compelling to Beijing that there are no attendant human problems in a continent without people.

Silencing Buddhist monks and 'restoring' order of law by executing Islamic minorities in Xinjiang has been a public relations nightmare for China's leaders. It has threatened to derail China's emergence as a major player on the world scene, specifically with nations promoting the ideal of universal human rights.

It has soured relations between China and the United States and continues to do so as evidenced by the current terse dialogue over President Obama's plans to meet with the Dalai Lama

Not to have to deal with any human problems must be an attractive proposition for Chinese leadership.

A population comprising penguins and seals must appear very inviting to Beijing.

Sovereignty: An Historical Perspective

The Antarctic Treaty System was borne out of a sense of idealism in a time when international relations were dominated by pragmatism and promotion of short term self-interest.

The Cold War period is generally not remembered for any commonality or harmony of purpose taken by the two super powers of the time.

The United States and the Soviet Union approached each other as adversaries and the fact that the 'war' remained 'cold' was largely through their manipulative deployment of intermediaries to engage each other and thereby avoid any toe to toe situations.

In order to understand the true nature of the Antarctic sovereignty problem, it is necessary to look back in history to the original reasons behind Antarctic exploration.

In the early 20th century Antarctica was the stage for the last great game of European colonial rivalry.

The "Heroic Age" of exploration was very much about flag planting and attaining land and consequent glory.

The expeditions of Scott and Shackleton were undertaken with the idea that Britain would take possession of the "Last Continent".

Captain Scott revealed in *The Times* on September 13, 1909 his intentions.

"Reach the South Pole, and to secure for the British Empire the honour of this achievement".

At the time the actual value of the continent's resources could not be speculated on never mind exploited.

However, it was unthinkable to suggest that it was not Britain's destiny to claim the land or at least a sizable portion of it.

At the conclusion of the "Heroic Age" of exploration and the near concurrent ending of the First World War, Antarctica largely disappeared from the international conscience. European nations were in no condition to carry on with external expansion and empire building. More pressing concerns were getting themselves back into some functioning order after the destruction of the old world order that accompanied the Great War

Britain entered a period of introspection brought about by the necessity to recuperate and rebuild.

However, though Britain was not in a position to pursue Antarctic sovereignty she was not prepared to totally forego all future claims to the continent. The compromise solution was to involve New Zealand as a proxy to act on her behalf.

Consequently, in 1923 Britain requested New Zealand claim sovereignty to what is now the Ross dependency. This foreshadowed Antarctic sovereignty becoming an international issue once again.

In 1929 the *Adelaide Advertiser* declared there was a “Scramble for Antarctica” with an unveiled reference to the colonial “Scramble for Africa” of the previous century. In 1933, under the Australian Antarctic Territory Acceptance Act, Australia claimed 42% of the continent.

Other nations to press Antarctic sovereignty claims were Argentina, Britain, Chile, France and Norway.

A total of seven sovereignty claims on a continent that is 10% of the world’s landmass. Some of the claims were for the same areas and thus mutually exclusive of other claims. In particular, the Antarctic Peninsula had overlapping claims by Britain, Chile and Argentina.

Antarctic sovereignty was an international issue that was imprecise and unresolved and thus had potential for creating future international discord.

Up to the signing of the Antarctic Treaty there were several stranger than fiction occurrences that underlined the damaging potential of sovereignty issues.

Perhaps the strangest incident was the 1939 attempt by Nazi Germany to indicate potential sovereignty by bombing Antarctic ice with hundreds of Nazi swastikas. The swastikas were counter-balanced so as to stay upright. The Nazi intention cannot be mistaken.

In the 1940s the Chilean government named the Antarctic Peninsula Tierra O'Higgins. The Argentine government countered by naming it Tierra San Martin. To the British it was Palmer Land. Sovereignty of the peninsula was an issue simmering away under the surface.

The closest the sovereignty issue came to a lethal incident was in February 1952 when Argentine soldiers fired machine-guns over the head of a British geological party trying to rebuild a burnt-down hut at Hope Bay on the South Orkney Islands. The next summer saw British policemen tearing down Argentine and Chilean buildings on Deception Island. (4)

In the United States the Antarctic was similarly relegated to the backwaters of the national conscience.

However, after World War Two and befitting its new role as the world's primary power, the United States undertook the push into Antarctica as a base for science.

Under Richard E Byrd, the United States expanded its scientific programme into the continent.

Operation Highjump had at its disposal a dozen icebreakers and an aircraft carrier and over 4000 personnel. (5)

However, while the programmes aims were widely heralded as scientific it is obvious that a substantial amount of the reason for involvement was strategic and global self-interest.

An official directive to the Secretary of the Navy from the acting Secretary of State dated 14th December 1946 stated the expedition was a means for,

"...consolidating and extending United States potential sovereignty over the largest practicable area of the Antarctic continent". (6)

(4) United Nations Question of Antarctica Study requested under General Assembly Resolution 38/77 report of the Secretary General A/39/583 part 1 31 October 1984

(5) McGonigall, David Secrets of the Southern Continent (Pymble, N.S.W. : Simon & Schuster, 2008.)

(6)) United Nations Question of Antarctica Study requested under General Assembly Resolution 38/77 report of the Secretary General A/39/583 part 1 31 October 1984

The United States was at this point in time pursuing its own strategic interests and was by far the most active player on the Antarctic stage.

In 1956 diplomatic manoeuvrings by Argentina and Chile, in rejecting the jurisdiction of the International Court of Justice over sovereignty claims on the Antarctic Peninsula brought by Britain, forewarned of a situation that was unsustainable in the long-term.

It appeared only a matter of time before a “hot” war broke out.

Moreover, in the same year, a complicated new development that promised to make things even more complex was foreshadowed.

India brought forward a case for Antarctic “internationalisation” within the framework created by the United Nations General Assembly.

It was against this backdrop that the Antarctic Treaty was born.

Developing out of the International Geophysical Year (IGY) the seven territorial claimant nations joined with the United States, Soviet Union, China, Japan and South Africa to negotiate a treaty that adroitly managed to shelve the problematic issue of Antarctic sovereignty.

The vexed Antarctic sovereignty issue was defused through clever wording in Article IV.

The effect of Article IV was that it could be interpreted so as to accommodate the particular interests of all states which had an active interest in Antarctica and which may have, or might have in the future, a sovereign interest in Antarctic territory.

This meant that the seven existing territorial claimants were all accommodated, whilst the interests of the two most significant non-claimants, the United States and the Soviet Union were also acknowledged, as their potential basis for a future claim was not diminished.

Likewise, other original treaty parties such as Belgium and South Africa were also accounted for under Article IV (1), which did not revoke their capacity to assert a future claim based on their prior activities on the continent.

There was, however, a significant constraint embedded within the terms of Article IV (2) which not only diminished the capacity of any treaty party to assert new claims whilst the treaty was in force, but which also made clear that no new claim or enlargement of an existing claim could be asserted whilst the treaty was operative.

This limitation in particular has raised sensitivities over the life of the Antarctic Treaty due to its implications for subsequent maritime claims over the Southern Ocean under a different legal regime, that being the United Nations Convention on the Law of the Sea.

Commenting on the successful conclusion of the Antarctic Treaty in *The Times* on 2nd December 1959 Sir Harold Caccia, the British ambassador in Washington said,

“The case for viewing the treaty’s broader significance:

The problems of this remote and unpeopled region might be thought to be of little relevance to the great issues that concern the world today. But they are problems to which the 12 nations represented here have attached importance and which have created real difficulties for some of them.

It is our hope that the successful conclusion of this treaty will be a good omen and will contribute to the establishment of a climate more favourable to the settlement of other international questions. In that case, the treaty will have had an importance far transcending the Antarctic”.

Stressing the Antarctic Treaty’s “broader significance” in glowing terms overlooks the shortcomings of a document that overcame the fundamental problem of sovereignty by what was termed by Nigel Watson, Executive Director Antarctic Heritage Trust, as the “concept of constructive ambiguity”.

Effectively, the troubling issue of sovereignty was glossed over with a tissue of words rather than honestly addressed and it now appears the cracks are ready to show.

In summation the ATS has for 50 years promoted Antarctica as a continent of science that is both nuclear free and demilitarized.

Adherents of the ATS would have us see an innovative global showpiece of selfless cooperation all in the name of science and for the benefit of humanity.

Through the development of the Convention for the Conservation of Antarctic Seals (1972), Convention on the Conservation of Antarctic Marine Living Resources (1980) and the Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol) (1991) the ATS has had great success in conserving Antarctica's natural living resources. ATS advocates point to these successes as evidence of the systems robust nature, vitality and effectiveness.

Clearly to date the ATS has been successful in putting the sovereignty issue on the back-burner.

But what about the issues that threaten to tear this frail accommodation apart? What happens if and when the "concept of constructive ambiguity" comes under serious examination or challenge?

The issue that appears most likely to emerge as the catalyst that ruptures the ATS is potential exploitation of resources, specifically mineral resources.

Presently, 137 of the world's nations are not bound by the mining ban of the Madrid Protocol.

What happens if one or more of these non-contracted states poses a challenge to the present status quo?

What happens to the treaty if a non-contracting nation wants to mine Antarctica for either hydrocarbons or hard rock minerals?

The answer is not reassuring to those putting trust in the ATS as the guarantor of Antarctica's pristine state.

Outspoken Australian advocate for securing Antarctica's future by having it listed under World Heritage List and World Heritage in Danger List management, Geoff Mosley cogently argues,

“For this reason any notion that the Antarctic Treaty System on its own is adequate for protecting the continent's world heritage values does not stand up to scrutiny...The great majority of nations have signed up to the World Heritage Convention whereas a minority have a role in the Antarctic treaty System”.(7)

Mosley clearly sees the shortcomings of the ATS and prefers the more internationalized backing of World Heritage as a framework for regulation and as Antarctica's guarantor.

In conclusion, the ATS has been effective in shelving the vexed issue of sovereignty for fifty years but, it has not resolved the sovereignty issue by keeping it in the background. To the contrary, it has turned sovereignty into the 'elephant in the sitting room'.

It is a large uncomfortable reality that refuses to go away and sooner or later it must be acknowledged and addressed.

Sooner or later an issue will arise that will bring the 'elephant' out of the corner and on to centre stage.

The issue that appears likely to bring the 'elephant' into sharp focus is the ownership of resources and the exploitation of those resources.

The ATS is a time-bomb ready to explode. The necessary explosives are the resources that the continent has and the fuse is the fact that no nations can lay claim to them as exclusively their own.

A closer look at the issue of resources is needed to underline the inherent weakness of the ATS and its self destructive nature.

(7) Mosley, Geoff Antarctica Securing its Heritage for the Whole World
(Envirobook, 2007) p.2

Resources

In order to address the issue that threatens to topple the ATS, I refer to the classification system devised by Alan D. Hemmings which introduces the concept of Antarctica's *Fifth Age*.

An age of growing uncertainty and instability.

Hemmings periodises Antarctic history as following;

1. Phase of speculation and conjecture from antiquity to early modern history.
2. Phase of maritime discovery, involving exploration and exploitation from the late 18th century to the close of the 19th century.
3. Phase of periodic continental penetration originating in the early 20th century "Heroic" era continued through to the inter-war period.
4. Phase of permanent presence and a conception of Antarctica as a "Continent for Science" post WW II which was given force by the IGY and adoption of the Antarctic Treaty, as a result of which Antarctica has become internationalized. (8)

Hemmings goes further to assert,

"Antarctica today appears to be significantly more unstable than at any previous time since the adoption of the Antarctic Treaty in 1959, notwithstanding the apparent calm within the political fora of the ATS". (9)

(8) Hemmings, Alan D. From the New Geopolitics of Resources to Nano-technology: Emerging Challenges of Globalism in Antarctica p 57

(9) Hemmings, Alan From the New Geopolitics of Resources to Nano-technology. Emerging Challenges of Globalism in Antarctica p 56

What is the nature of this instability and what are the medium and long-term ramifications of Antarctica's *Fifth Age*?

Antarctica's *Fifth Age* began between the mid-1980's and early 1990's and is closely connected to changes on a global scale.

The disintegration of the Soviet Union and developments in technology that were available to both nations and Non-Governmental Organisations (NGOs) increasingly put Antarctica on the global agenda in terms of resource exploitation.

Specifically, any Antarctic mineral resource issues were initially supposed to be managed under the Convention for the Regulation of Antarctic Mineral Resource Activities (1988) CRAMRA.

Australia and France scuppered CRAMRA and it was never enacted.

CRAMRA was superseded by the 1991 Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol) and its 50 year ban on mining

The 1991 Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol) entered into force in 1998 and serves as the over-arching mechanism for ensuring the protection of the Antarctic environment.

The Madrid Protocol goes further than the original Antarctic Treaty as it designates Antarctica as a natural reserve devoted to peace and science and places a moratorium on mining and drilling for oil for a minimum of 50 years.

The Protocol spells out basic principles and detailed, mandatory rules which apply to all human activities in Antarctica.

The call for an environmental protocol to the Antarctic Treaty came after scientists hypothesised on large deposits of natural resources such as coal, natural gas and offshore oil reserves in the early 1980s.

Antarctica is considered to be part of the super-continent known as Gondwanaland, which separated near the end of the Paleozoic era and consisted of South America, Africa and Australia. Huge mineral wealth is presently mined in these regions so it seems realistic to assume the same wealth could exist in Antarctica

Furthermore, because Antarctica was once completely covered in vegetation, many scientists believe it may hold one of the last supergiant oil fields yet to be discovered. The continental shelf of Antarctica is considered to hold the region's greatest potential for oil exploration projects, and although estimates vary regarding the abundance of oil in Antarctica, the Weddell and Ross Sea areas alone are expected to possess 50 billion barrels of oil - an amount roughly equivalent to that of Alaska's estimated reserves.

However, Antarctica's extremely challenging climatic conditions make oil field development technically and economically problematic.

Nevertheless, following the energy crisis of the 1970s, several oil companies looked to Antarctica as a possible answer to future world oil shortages by announcing plans to explore the continent's resources.

The conditions necessary for economically-sound oil production projects were beginning to look brighter with ever-higher oil prices and ever-increasing demand in the developed North.

This combined with improved drilling technology meant the possibility that Antarctica could be exploited was becoming a less far-fetched idea.

At the same time the prospect that Antarctica's hitherto untouchable wilderness could be destroyed by oil exploration and drilling activities resulted in the galvanizing of several conservation groups intent on preserving the continent's status as the last pristine continent on the planet.

Hemmings asserts the reason Antarctica was not subject to resource exploitation at this early stage was entirely due to logistic limitations.

“However, what still really governed human activity levels in Antarctica were its remoteness from the main areas of global human activity, the rigours of the environment, limited technological capacity (with access to the technologies essential for Antarctic operation still largely confined to governments), and the situation of the Antarctic dispensation within a broader Cold-War rubric. Further, surrounding the Antarctic, with its limited human activity, was a wide belt of ocean in which very little human activity, bar transit, was evident.

Human activity in Antarctica was thus limited, narrowly focussed, governmental, and insulated from global trends.

Antarctica was, accordingly, a place apart; a place outside the increasingly inter-connected world elsewhere”. (10)

What has changed the resource equation since the advent of the Madrid Protocol?
Can it be that Antarctica is no longer isolated from the world?

The catalyst that has ended this isolation is technological advance.

Allied to the fact that that technology is increasingly being developed and utilized by NGOs and multinational corporations.

Hemmings again,

“In the past decade or so, there has been what one might call a revolution in Antarctic affairs as automation, remote sensing, new materials technologies, communications and modeling capabilities have been applied there.” (11)

(10) Hemmings, Alan D. Globalisation's Cold Genius and the Ending of Antarctic Isolation (Looking South) p177

(11) Ibid p182

The wherewithal to exploit Antarctic resources is now with us.

What form will this exploitation take?

Hydrocarbons

In 2006 Dr Ali Samsam Bakhtiari, a former senior adviser for the National Iranian Oil Company in Tehran told a conference of Antarctic experts in Hobart that the Antarctic would need greater protection to save it from exploitation by increasingly desperate oil-hungry nations.

Bakhtiari pointed out that the Arctic was once thought safe from mining but that exploration began 12 years previously,

"There is now only one frontier province left and that is Antarctica...we need to realise that crude oil is the master domino in our world." (12)SMH

In a somewhat head in the sand response, Australian Antarctic Division director Tony Press asserted any pressure to mine Antarctica was a long way in the future,

"There is no evidence at the moment that anyone is pursuing mineral exploration in Antarctic." (13)

(12) UAEs Bakhtiari participates at International Antarctic Treaty expedition from WAM
United Arab Emirates News Agency December 8 2009

(13) Sydney Morning Herald (December 2009)

The Australian Antarctic Division's view as expressed here is based on the premise that there is no reason for concern given the current position that no one is pursuing mineral exploration.

However, based on accessibility factors, the Antarctic area that is widely considered to hold the greatest potential for oil exploitation is the continental shelf. This is the area currently under sovereignty claim by New Zealand and Australia but whose exact ownership is being held in abeyance under the ATS.

The present situation where New Zealand's and Australia's Weddell Sea and Ross Sea region has massive if not insurmountable problems in managing marine resources (fishing) is highly relevant to the fact that the area is also believed to hold the most lucrative oil reserves that can be realistically accessed.

An estimate that fifty billion barrels of oil, an amount roughly equivalent to Alaska's entire estimated reserves, lies under the Weddell and Ross Seas alone is critical in calculating the areas attractiveness for exploitation.

Other estimates by the former Soviet Union Hydro Meteorological Service and the Japanese Plan Antarctic Survey give similar projections. One estimate goes so far as to put potential deposits as high as 203 billion barrels. Additional studies have found heavy hydrocarbon residues in the Antarctic areas of McMurdo Sound and Bransfield Strait. The real question thus becomes not whether oil deposits exist, but whether they will be found, and once discovered, whether they can be economically extracted and most importantly, when.

Perhaps of equal or even greater importance than proof of existence and possible exploitation of resources, is what Hemming's terms the global rejection of 'Antarctic exceptionalism'.

"...the greatest challenge faced by the ATS is globalism's implicit rejection of its central tenet: particular management of the Antarctic as the Antarctic- a belief in the instrumental merit of managing this place on a regional basis, as some sort of bounded entity, differently from elsewhere" (14)

(14) Hemmings, Alan D. From the New Geopolitics of Resources to Nano-technology: Emerging Challenges of Globalism in Antarctica p 62

The *Fifth Age* is an age in which Antarctica is assimilated as any other part of the planet and is therefore able to be exploited in the same way as any other part of the planet. The exact amount of resource available is consequently of no relevance as Antarctica is now viewed in the same light as any other point on the planet.

Hard Rock Minerals

Hard Rock minerals are another potential factor which makes Antarctica vulnerable to exploitation and which conforms to and adds weight to the thesis that the ATS has its own self-destructive capacity hard-wired in itself.

There is no definitive answer as to how much mineral wealth there is in Antarctica.

Consequently, I propose two 'new age' minerals whose place in the scheme of things has yet to be established.

Manganese Nodules and Methane Clathrates may turn out to be relatively unimportant in the long run, or they may develop a hard-edged prominence in the future. They are important because they are symptomatic of the situation that the ATS has failed to deal with and which threatens to bring it crashing down.

Seafloor Manganese Nodules

In many tropical to polar oceans there is a dense layer of black, manganese and iron oxides, usually made of nodules. These Manganese Nodules contain more valuable elements such as copper, nickel and cobalt. They are not mined commercially to date but are recognized as a valuable future resource in an energy-depleted system. The obvious scenario is that they will be exploited in the tropical regions until fully exhausted.

Antarctica's present mining ban means that it is probable that by the time all the easily accessed seafloor manganese nodules are exploited the planet will be even more resource depleted and the ability to mine them will be both technologically greater and more economically compelling.

If this relatively straight-forward and completely plausible scenario were to coincide with the end of the mining ban in 2048 simple market economics would suggest a likely rush to take advantage of a finite resource.

Methane clathrates

Methane clathrates are known to exist on the Antarctic seafloor. They represent a potentially important future source of hydrocarbon fuel. To date they are only commercially extracted in the Messoyakha Gas Field situated in the permafrost region in western Siberia.

Mining in the Siberian permafrost would seem a good platform from which to expand into mining in Antarctica.

Currently both Japan and China have Methane clathrate research and development programmes and Japan is aiming for commercial extraction plans by 2016.

Methane clathrates present another interesting factor in a resource depleted world that could coincide with the end of the Antarctic mining ban in 2048 and advanced technology capable of exploiting this resource.

Given that there are known to be other mineral resources in Antarctica it is important to factor into the equation the prohibitive expense and concomitant hazards that stand in the way of their being exploited. Climate, ice and distance from industrial markets all weigh up to make Antarctic mining unattractive at the present time.

Notwithstanding that there is a fifty year ban in place on all mining in effect until 2048. Low grade coal has been found and iron ore is abundant but not economically viable.

However, coal and iron ore are not what will bring about the demise of the mining ban and the bonanza for Antarctic mineral wealth.

Gold is a mineral more likely to create the necessary political climate which ends the present system and launches a wholesale bonanza in the region.

Toronto based Barrick Gold Corporation, the world's largest gold-mining company, has started work at the Pascua Lama site at an altitude of over 4,500 metres in the Chilean Andes. Projections are that the planned project could realize 18 million ounces of gold. As in the Messoyakha Gas Field, the experience gained working in extreme conditions, can only make the transition to Antarctica that much more feasible.

More importantly for Antarctica, the success of the Pascua Lama project could provide the Chilean government with the economic rationale and the technological expertise to put alongside its already forthrightly held belief that it alone owns part of the Antarctic Peninsula and must assert its rights by utilising what it owns.

If the desire for national pride and the need to earn hard cash coincides with the end of the mining ban and the development of effective technologies to exploit the situation, then it would be commonsense to suggest Chile would be sorely tempted not to take advantage of what it already claims as its birthright.

The End Game

The Madrid Protocol came into effect in 1998. We will not be at halfway in the fifty year interlude in the mining debate it has sought to put a stop to until 2023.

However, the drivers of transformation that threaten to destroy it are already in place.

The main drivers are population growth with corresponding resource depletion and accompanying technological innovation and development.

What is the likely set of circumstances and state of affairs that the ATS will face in 2048 when the Madrid Protocol expires?

WORLD POPULATION

The United Nations Department of Economic and Social Affairs' Population Division prepares official United Nations estimates and projections of world, regional and national population size and growth, and demographic indicators. The results from the most recent set of estimates and projections were published in *World Population Prospects*.

The estimates and projections in the *2002 Revision* cover the period 1950-2050

(15) World Population (2002 Revision) 1950-2050 UN Dept. Economic and Social Affairs Population Division (World Population Prospects)

The UN projections suggest world population will peak at 9.22 billion by 2075.

Importantly, population will grow only slightly beyond the level of 8.92 billion projected for 2050.

World population at 2000 was 6.1 billion.

This represents a 47 % increase in total world population in a period that runs near parallel with the planned life span of the Madrid Protocol.

Up to 2050, China's share of the regional population of Asia will grow by 9%.

India's population, in contrast, will increase in absolute terms by a staggering 51%.

Up to 2050, still faster growth will take place in the remainder of South-Central Asia and in Western Asia. Much slower growth will take place in the already developed nations of north eastern Asia, namely Japan, Korea and Taiwan.

A closer look at ATS states with sovereignty claims on Antarctica shows that four of the seven nations; Argentina, Chile, Australia and New Zealand are in the least populous areas of the planet.

With 8.6 per cent of world population in 2000 Latin America and the Caribbean has a seventh of the population of Asia.

Oceania is by far the smallest of the major areas with less than 1 per cent of the population of Asia.

Ironically, the combined populations of the four claimant nations to Antarctic sovereignty make up considerably less than 10% of the world's population.

The Antarctic they lay claim to makes up nearly 10% of the world's land mass.

When taken into consideration that this 10% of the world's landmass and its accompanying resources is, through the reality of its unpopulated position, the only region available to be divided amongst nations seeking more land and resources, we have in effect 10% of the population of earth claiming 100% of the available land and resource available.

Resources

Having touched on resources under the division of Hydrocarbons and Hard Rock Minerals it is valid to say there is incontrovertible evidence we live in a world where increasing resource depletion is with us in 2010.

The fact that resources will come under more pressure through population growth and moreover through population growth in the less developed South is equally undeniable.

That these factors exist at a time when technology is improving and in the presence of a weak ATS system that does not have the ability to categorically say who owns what is significant.

Technology

Technology is a two-edged sword.

It enables mankind to achieve things previously unachievable. Harnessed effectively technology has the potential to improve the lot of mankind.

Nevertheless, a negative aspect of technological development is that technology is continually improving and the way it improves is through trial and error.

In other words, as soon as the technology is available it tends to be used as opposed to being refined to an optimum level before being used.

Vital issues such as extracting resources with minimum environmental impact tend to be relegated in the headlong rush to get the resources out of the ground as quickly as possible.

In the mining industry, technology has developed in quantum leaps in its effectiveness at getting hitherto inaccessible resources.

On the other hand mining is still beset with problems of efficiency and has largely failed to address key issues such as sustainability not to mention wider conservation concerns.

The main drivers behind the destruction of the Madrid Protocol are in position.

By the time the 50 year mining ban has run its course the salient factors in place will be;

- A world population of near 9 billion.
- A huge increase in the population of the developing South.
- An increasingly resource depleted world
- Improved technology

It appears all that is required is a stage on which to play the End Game.

Argentine-Chile Wrangle Brings

Down Madrid Protocol –

Antarctic Bonanza Imminent

Speaking from his office in La Moneda, Chilean President Enrique Rojo-Montana defended his nation's military deployment into Tierra O'Higgins (Antarctic Peninsula) in response to Argentina's recent military moves into the same territory. These developments appear to have been precipitated by the upcoming renewal talks surrounding the Madrid Protocol which has seen a mining ban on the "Last Continent" since late last century.

Negotiations, described as tense by Norwegian mediators, have been continuing since Argentina sent warships and put military on standby in the area last Sunday.

Argentine President Arrigo Castano announced Argentina's move from Buenos Aires saying,

"Recent developments and information surrounding Chile's Pascua Lama mining operation in the High Andes left Argentina with no option than safeguarding our interests in Antartida. Tierra San Martin is Argentine sovereign land and we cannot standby and watch it stolen from us in a sordid back-room deal between interlopers and lackeys".

In further Press releases an Argentine government spokesman presented 'documents' and witnesses who claim that super giant Toronto-based gold-mining company Barrick has signed a secret deal to expand its controversial mining operation into the Antarctic peninsula.

It is widely believed President Castano is referring to barrack with references to interlopers.

An alternative, at this point in time unsubstantiated claim, suggests that the reference was aimed at Santiago's increasing economic cooperation with Beijing.

Reaction from Washington DC and London has been mixed.

Britain already has a disputed claim on the same area as both Argentina and Chile and the US refuses to recognize any of the three claimants.

In a parallel development, reports from Sydney, Australia and Wellington, New Zealand ...

(Source - La Prensa, 11-29-47)

Malaysian-Russian Business

Create World's First

Water-Harvest Consortium

Giant Malaysian based water resources consortium, *AquaTec* today announced a tie-up with a group of Vladivostok based shipping companies headed by Arctic shipping giant *PolarTec*.

The new consortium will be known as *PolAquaTec International* and will be the largest fleet and the first capable of harvesting icebergs in Antarctic waters.

AquaTec-PolarTec's stated intention was expressed by the conglomerates joint chairmen, Abdullah bin Rahman and Yuri Andreissiev in simultaneous vid-meetings at the new company headquarters in Kuala Lumpur and Vladivostok. Mr Andreissiev said,

"The harvesting of icebergs from the Antarctic wastes for the benefit of mankind and the developing and refining of new technologies to transport them to equatorial latitudes to increase world food production is long overdue."

Mr bin Rahman went on to criticize the Antarctic Treaty nations who have vehemently opposed the consortium's plans. He described the nations as,

"A gang of colonialist old boys who have run an exclusive club for their own selfish ends at the world's expense. The Antarctic Treaty has not kept pace with 21st century reality. It is unacceptable because it is exclusive and secretive and unaccountable to the world's legitimate forum-the United Nations."

Mr bin Rahman's words echo sentiments his government has made since the 1980's.

It was commented on by Polar region experts that there was no parallel criticism made by the Russian consortium whose government is a founding signatory to the Antarctic Treaty.

However, it is not thought that the Russian government is able to intervene given Siberia's declaration of its autonomous state late last year.

That autonomy declaration came hard on the heels of Russia's backdown over energy disputes in the Caucasus region with several key oil and gas producers, most notably the decade old Kurdistan People's Republic.

(Source – Singapore Straits Times 6-17-45)

Bibliography

- Beck, Peter J. *The International Politics of Antarctica*
(London, Croom Helm, 1986)
- Beck, Peter J *Keeping Conflict on Ice: the Antarctic Treaty*
History Today,
- Child, Jack *Antarctica and Argentine Geopolitical Thinking*
- Dodds, Klaus *Geopolitics in Antarctica: Views from the Southern Ocean Rim.*
(Chichester: New York: John Wiley, 1997)
- Dodds, Klaus *Post-Colonial Antarctica: an emerging engagement*
- Griffiths, Tom *A Miracle of Politics and Science*
(Inside Story Current Affairs and Culture, 2009)
- Hardin, Garrett "The Tragedy of the Commons," *Science*, 162(1968):1243-1248.
- Hemmings, Alan & Stephens, Tim
Reconciling Regional and Global Dispensations: The Implications
Of Sub-Antarctic Extended Continental Shelf Penetration of the
Antarctic Treaty Area
(University of Sydney Law School, July 2009)
- Hemmings, Alan D.
Beyond Claims: Towards a non-territorial Antarctic Security Prism
for Australia and New Zealand.
(New Zealand Yearbook of International Law 6)
- Hemmings, Alan D.
From the New Geopolitics of Resources to Nano-technology:
Emerging Challenges of Globalism in Antarctica
- Krasner, S *Sovereignty: Organised Hypocrisy?* (Princeton University Press 1999)
- Mosley, Geoff *Antarctica Securing its Heritage for the Whole World*
(Envirobook, 2007)
- Prior, Stuart *Antarctica: View from a Gateway*
(Working Paper 5/97 NZ Ministry of Foreign Affairs and Trade)
- Yam, Philip *Is it Time to Kill the Antarctic Treaty ?*
(Scientific American, 2008)

Internet Sources

Beck, Peter J Keeping Conflict on Ice: the Antarctic Treaty
(History Today, High Beam Research 10 Jan 2010)

Child, Jack Antarctica and Argentine Geopolitical Thinking
Dept. Language and Foreign Studies, The American University Washington
DC. USA (February 1990-Online July 2002)

Gallardo, Eduardo
Chile, Argentina battle British in Antarctica
AP Worldstream, 2009

Rothwell, Donald
Sovereignty and the Antarctic Treaty
(College of Law, Australian National University)

United States hosts Antarctic Treaty parties; Secretary of State discusses Polar issues
(American Journal of International Law. American Society of
International Law, 2009 , High Bam Research Jan 2010)