

# Antarctica Day

DECEMBER 1<sup>ST</sup>



Photo credit C. Swithinbank / Scott Polar Research Institute

## ANTARCTICA DAY INAUGURAL LECTURE

**When:** Wednesday 1<sup>st</sup> December 2010 – 7:00 PM

**Where:** Scott Polar Research Institute, University of Cambridge

**Who:** Professor Paul Arthur Berkman & Professor David W.H. Walton

Co-chairs of the *Antarctic Treaty Summit* ([www.atsummi50.aq](http://www.atsummi50.aq))



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**ANTARCTICA DAY** is conceived as an enduring legacy to celebrate the 1st December 1959 signature of the *Antarctic Treaty*, which was adopted "*with the interests of science and the progress of all mankind.*" Professors Berkman and Walton, co-chairs of the Antarctic Treaty Summit ([www.atsummit50.aq](http://www.atsummit50.aq)), will highlight lessons from the first fifty years of the *Antarctic Treaty* that have enabled humanity to manage nearly 10% of the Earth for "*peaceful purposes only,*" establishing precedents for our children to share as they build a world with hope and inspiration for future generations.



**Paul Arthur Berkman** is Head of the Arctic Ocean Geopolitics Programme at the University of Cambridge through the Scott Polar Research Institute and Judge Business School and a Research Professor at the University of California Santa Barbara through the Donald Bren School of Environmental Science & Management. He is an interdisciplinary oceanographer establishing connections between science, policy and information technology to promote cooperation and prevent discord for good governance of the Arctic Ocean, Antarctica and international spaces more generally. Paul has wintered, scuba-dived under the sea-ice and lead government-sponsored research expeditions to Antarctica. Among his books are: *Science into Policy: Global Lessons from Antarctica* (Berkman – Academic Press, 2002); *Environmental Security in the Arctic Ocean: Promoting Cooperation and Preventing Conflict* (Berkman – RUSI, 2010);

and *Science Diplomacy: Antarctica, Science and the Governance of International Spaces* (Berkman, Lang, Walton and Young – Smithsonian Institution Scholarly Press, in press). He was chair of the international board for the *Antarctic Treaty Summit* at the Smithsonian Institution in 2009 and co-director for the NATO Advanced Research Workshop on *Environmental Security in the Arctic Ocean* at the University of Cambridge in 2010 ([www.spri.cam.ac.uk/research/aog/](http://www.spri.cam.ac.uk/research/aog/)). He has been awarded the Antarctic Service Medal from the United States Congress; NASA Faculty Fellowship at the Jet Propulsion Laboratory, California Institute of Technology; Byrd Fellowship at Ohio State University; Japan Society for the Promotion of Science Fellowship at the National Institute of Polar Research in Japan; Erskine Fellowship at the University of Canterbury in New Zealand; and Fulbright Distinguished Scholarship at the University of Cambridge in the United Kingdom. He has a master's degree and doctorate in biological oceanography from the University of Rhode Island, where he was a National Science Foundation Graduate Fellow.



**David W. H. Walton** completed a degree in Botany at Edinburgh University. DAVID WALTON went on a university expedition in 1967 to Iran researching animal diseases. On returning to the UK he went immediately down to Antarctica beginning a career with British Antarctic Survey (BAS). For the next 39 years David worked for BAS in a variety of research and management posts, gaining a PhD from Birmingham University. He was responsible for all the environmental management and conservation, mapping, databases and information management including the provision of scientific information to the educational system and the public. David is currently a Visiting Professor at Liverpool University. Establishing the international journal *Antarctic Science* in 1989, David has since run it as Editor-in-Chief. The journal currently uses its profits for charitable support of

young Antarctic scientists. He also headed the Scientific Committee on Antarctic Research (SCAR) delegation to the annual Antarctic Treaty meetings from 1992 until 2006 and was awarded the first SCAR Medal for International Scientific Collaboration in 2006. David has recently been involved in reviews of the Antarctic programmes of Germany and South Africa and is presently involved in writing the history of SCAR and researching a book on Antarctic Science and politics. Among his other books other are *Antarctic Science* (Walton – Cambridge University Press, 1987) and *Science Diplomacy: Antarctica, Science and the Governance of International Spaces* (Berkman, Lang, Walton and Young – Smithsonian Institution Scholarly Press, in press). David served as vice-chair of the international board for the *Antarctic Treaty Summit* at the Smithsonian Institution in 2009.

## OPINION

## International spaces promote peace

Lessons are still being learnt from the Antarctic Treaty, adopted 50 years ago this week. It set a visionary precedent for governing regions and resources beyond national jurisdictions, says **Paul Arthur Berkman**.

This year marks the 50th anniversary of a landmark treaty — the planet's first nuclear arms-control agreement, and the first institution to govern all human activities in a region beyond sovereign jurisdictions. Adopted in Washington DC on 1 December 1959, the Antarctic Treaty recognized that “it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord”.

During the 1960 ratification hearings of the Antarctic Treaty in the US Senate, polar scientist and explorer Laurence McKinley Gould testified that it was “a document unique in history that may take its place alongside the Magna Carta and other great symbols of man's quest for enlightenment and order”. This comparison to England's legal charter of 1215, renowned worldwide as a seminal precedent for constitutional law and national democracy, may seem presumptuous. But it is fitting.

Nearly 75% of Earth's surface lies beyond national boundaries. International institutions governing such spaces are still in their infancy, having originated largely in the aftermath of the Second World War, when humankind was inexorably introduced to our global interdependence. Humankind is only gradually awakening to the shared responsibility for governing human activities in these international spaces and for managing the effects of global phenomena such as climate change. At this threshold in our civilization, the Antarctic Treaty offers a unique precedent.

Since 2000, with collaborators around the world, I have been planning an interdisciplinary and inclusive event to celebrate the first fifty years of the Antarctic Treaty. An open Antarctic Treaty Summit will be held from 30 November to 3 December 2009 at the Smithsonian Institution in Washington DC ([www.atsummit50.aq](http://www.atsummit50.aq)). The summit will highlight lessons learned about science-policy interactions in international cooperation and governance. It also will introduce the Forever Declaration — a non-binding affirmation of the Antarctic Treaty legacy, open for signature on 1 December (on the above website) to anyone anywhere with hope for enduring peaceful uses of regions and

**“The Antarctic Treaty demonstrates the strength of science as a tool of diplomacy.”**



US ambassador Herman Phleger signing the Antarctic Treaty on 1 December 1959. He later autographed this photo: “To Laurence Gould, without whom there would be no Antarctica Treaty”.

resources beyond national jurisdictions.

The ice-covered continent of Antarctica is surrounded by oceans and is without indigenous human populations. It could easily have become an area for weapons testing and storage, or been divided up between nations interested in exploiting its resources. The first nation to claim territory in the Antarctic was Great Britain in 1908, followed by New Zealand, France, Australia, Norway, Chile and Argentina. Some claims overlapped. To avoid territorial conflicts and to preserve sovereignty rights, in 1948 the United States issued to the seven claimant nations a secret aide memoire with a draft agreement proposing an international status for the Antarctic area.

The draft focused on the global relevance of science and exploration, as well as on the importance of maintaining international peace and security in Antarctica. This antecedent of the Antarctic Treaty matured under the statesmanship of President Dwight D. Eisenhower, who entered office in 1953 envisioning “a day of freedom and of peace for all mankind”.

During the cold-war period of the late 1940s and early 1950s, the United States and Soviet Union raced to create missiles that could

deliver nuclear weapons across continents. Few bridges were being considered, much less built, between these superpowers. The treatment of Antarctica, at first, was no exception. At a US National Security Council meeting in June 1954, a territorial solution for the Antarctic was discussed that would “ensure maintenance of control by the United States and friendly powers and exclude our most probable enemies”. Curiously, it was rocketry that would also herald cooperation in the Antarctic.

### Science for peace

Meanwhile, the International Council of Scientific Unions (ICSU) had begun planning the International Geophysical Year (IGY) for 1957–58 to coordinate geophysical observations on a planetary scale. At their October 1954 meeting in Rome, the ICSU further recommended the development of satellites for the IGY, to advance upper-atmospheric research and provide unparalleled measurements of the Earth system.

Recognizing the inevitability of satellites and ballistic missiles, Eisenhower introduced his ‘Open Skies’ proposal in Geneva on 21 July 1955, whereby the United States and the Soviet Union would give each other a “complete blueprint of our military establishments” as part of a system of mutual aerial reconnaissance.

Eisenhower's hope was for "practical progress to lasting peace". But his proposal was rejected by the Soviet Union as an "espionage plot".

The following week, the White House disclosed its first space policy: the United States would launch small Earth-circling satellites during the IGY. Special efforts were made to ensure that this was seen as a peaceful project. The US Navy was chosen to conduct the satellite launch, even though the Army was technologically more advanced in rocketry. In fact, the Army Ballistic Missile Agency was specifically restrained by the White House from firing the fourth stage of the Jupiter-C rocket during a September 1956 test launch for fear of exacerbating the cold war. Instead, the freedom of space was preserved and perhaps because of this, the Soviet Union became the first into orbit with Sputnik in October 1957, followed three months later by the first US satellite.

Eisenhower had failed to push through his Open Skies proposal, but there was another front on which he hoped to engage the Soviet Union in peace talks. Building on the momentum of scientific cooperation during the IGY, in May 1958, President Eisenhower invited the Soviet Union and the other ten nations involved with Antarctic research (the seven claimants, plus Belgium, Japan, and South Africa) to seek an effective means of ensuring that the "vast uninhabited wastes of Antarctica shall be used only for peaceful purposes". Over the next 18 months, 60 secret meetings were convened in the United States, culminating in the Conference on Antarctica between 15 October and 1 December 1959, when the Antarctic Treaty was signed.

The Antarctic Treaty is elegant in its simplicity. It has just 14 articles to govern the area south of latitude 60° S, covering nearly 10% of Earth's surface. Territorial issues were set aside. "Substantial research" activities became the criterion for nations to consult on "matters of common interest" (species conservation, open inspection, questions of jurisdiction, freedom of scientific investigation, scientific cooperation and peace) and to make decisions by consensus every one or two years. The Antarctic Treaty became the first nuclear-arms agreement, with the unrestricted inspection strategies that Eisenhower had envisioned for Open Skies. With the IGY, science had become a tool of diplomacy.

The first institution to govern a region beyond national boundaries, but without blanket governance, was the 1958 Convention on the High Seas, which formalized several long-standing concepts of international law, including the freedoms of navigation and fisheries as well as the prevention of piracy, pollution and slavery. It was the 1959 Antarctic Treaty, however, that

first governed all activities in an international space, demonstrating how common interests could be used to overcome distrust. The Antarctic Treaty became the precedent for the 1968 and 1972 non-armament treaties for outer space and the deep sea, respectively.

### Policy building

Once the Antarctic Treaty was in place, the signatories began to build specific policies concerning their common interests, starting with species conservation. With advice from the Scientific Committee on Antarctic Research (an ICSU body), the signatories agreed on measures for the conservation of Antarctic fauna and flora in 1964. A conservation convention for Antarctic seals was adopted in 1972. In 1980, the Convention on the Conservation of Antarctic Marine Living Resources introduced an ecosystem approach for the rational use of species living in the Southern Ocean — an area with global importance because of its extensive biomass. This policy trajectory demonstrates the success and flexibility of the Antarctic Treaty system to reach agreements informed by science.

It was mineral resources that truly tested the resilience of the Antarctic Treaty consultative process. Following the 1973–74 oil embargo by the Organization of the Petroleum Exporting Countries and speculation about vast oil and gas deposits on the Antarctic continental shelf, new signatories to the Antarctic Treaty expanded exponentially over the next 15 years as nations asserted their interests in potential mineral exploitation. There was intense discussion during this period about how to regulate mineral resource activities, but these negotiations fell apart in the late 1980s. Soon after, the signatories signed the 1991 Protocol on Environmental Protection to the Antarctic Treaty, which prohibits any activity relating to mineral resources other than scientific research. Even for extremely divisive issues, the treaty process was capable of creating resolution.

As US secretary of state Hillary Clinton noted at the April 2009 Antarctic Treaty Consultative Meeting, "the genius of the Antarctic Treaty lies in its relevance today". The Antarctic Treaty model recognizes that solutions to trans-boundary or global issues must be processes involving cooperation, iteration and responsiveness to ever-changing circumstances. This lesson is particularly relevant

to managing our changing climate, with perspectives and expectations beyond solutions forged at a single meeting. The challenge for governments and civil society is to envision a science-policy process that will operate over decades and centuries.

The Antarctic Treaty is especially relevant to the Arctic, where stakeholders have thus far avoided shared discussions about peace and security. Amplified climate warming in the polar regions is causing the Arctic Ocean to transition from a permanent ice cap to a seasonally ice-free sea: the most profound environmental state change on Earth. Risks of political, economic and cultural instability are inherent.

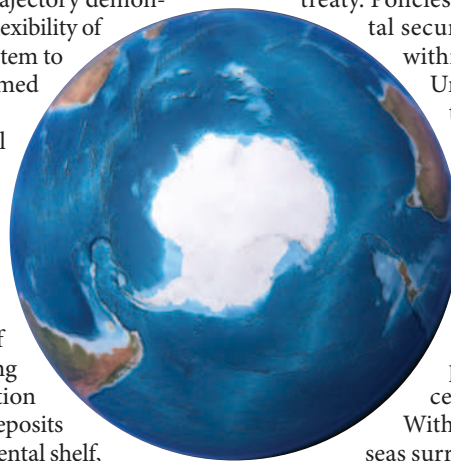
Before it becomes ice free and new commercial activities become entrenched, there is opportunity in the Arctic Ocean to establish a process of continuous policy development that explicitly promotes cooperation and prevents discord. This does not require a new treaty. Policies based on environmental security could be facilitated within the framework of the United Nations Convention on the Law of the Sea, in concert with the scientific advice of the Arctic Council and other institutions. An important outcome of this consultative process would be inspired climate adaptation policies with relevance centuries into the future. With statesmanship, the high seas surrounding the North Pole could become the next pole of peace.

The Antarctic Treaty demonstrates the strength of science as a tool of diplomacy, having facilitated peaceful cooperation between adversaries and allies at the height of the cold war. The future of our world requires leaders who can apply all such tools to balance national and common interests. Reflecting on the lasting legacy and lessons of the Antarctic Treaty during its first fifty years, 1 December deserves to be celebrated as a day of "peace for all mankind".

**Paul Arthur Berkman** is head of the Arctic Ocean Geopolitics Programme at the Scott Polar Research Institute, University of Cambridge; chair of the International Board for the Antarctic Treaty Summit; and a research professor at the Bren School of Environmental Science and Management at the University of California, Santa Barbara.

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See [go.nature.com/xoiQkv](http://go.nature.com/xoiQkv) for further reading.



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