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Anderson, Alun

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THE CULTURE AND CONFLICT REVIEW



Can We Keep Up With Arctic Change?

Dr. Alun Anderson, 4/22/2011

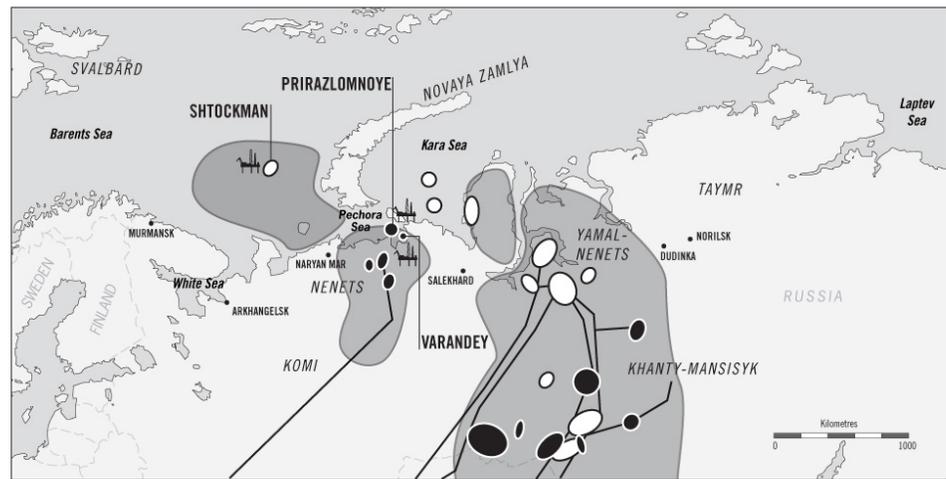
The Arctic is changing rapidly and unpredictably. At the end of the summer of 2010, the total area of the ice in the Arctic was 1.78 million square miles, down from an average of 2.89 million square miles in the two decades of the last century. Since that period an area of summer ice five times the size of California has vanished, leaving huge expanses of open water all around the Arctic shores. No scientist thought that this would happen so fast: just five years ago ice-free summers in the Arctic were predicted for 2100, now 2030 is seen as probable.

As the ice disappears, the unique animals of the Arctic, from the charismatic polar bear and narwhal down to the tiny, unseen creatures that live in fissures in the sea ice, are coming under threat. Other animals from the south which flourish in warmer seas are arriving to replace them as the Arctic melts away. So too are ships, tourists, oil and gas companies and mineral prospectors, some from nations very far from the Arctic but who see new prospects for wealth and trade. All present new threats and opportunities for the people of the Arctic who see their current way of life disappearing, sometimes along with their homes which have been sinking into the thawing permafrost or being washed away by newly open seas.

Everywhere around the Arctic, governments have been busy setting new policies for the High North. One theme unites them all: how to balance the exploitation of natural resources with care for the environment and the rights of Arctic residents, while ensuring the region remains at peace. The questions of how these objectives can be reached, at what forums whose voices should be heard, and who should have responsibility for what, in which regions of the Arctic, are only partially resolved. Governments, policy makers and Arctic residents need to act fast or risk being left behind as the environment changes and new commercial interests rush in to exploit the Arctic's wealth. So far, the only phrase that captures the speed of change in the Arctic, whether it's vanishing ice, thawing permafrost, rising temperatures or the opening of Russian waters to ships and oil exploration is "faster than predicted". International action to look after the Arctic must accelerate.

Russia Takes Off

The pace of change is perfectly symbolised by the voyage taken by eight young Russians on a 60-foot yacht in 2010. That summer, they sailed the Peter 1 right around the Arctic, first through the northern route from Murmansk across the top of Siberia and then on, through the Northwest Passage to emerge in Lancaster Sound just ten weeks later. A century or so ago, when Baron Nordenskiöld and Roald Amundsen sailed separately along these same routes for the very first time, an equivalent voyage though the ice-choked seas would have taken six years.



In the Russian Arctic, oil and gas industries are also moving fast and foreign partners are being welcomed for their expertise. In March 2011, the railway across the permafrost and up into the Yamal peninsula was completed, opening up access to the huge Bovanenkovo gas field. A pipeline will take the gas west, back to Europe, and a liquefied natural gas terminal will be built with handy access to the northern sea route for exports east too. In March 2011, the French oil company Total signed an agreement to help build that facility terminal. Gas exploration will also move offshore from the Yamal in 2011.

Russia's first true offshore Arctic oil production facility should be in action late in 2011 too. A giant steel platform, over 330 feet wide and weighing 100,000 tons was built at the Sevmash yard in Archangel and towed to Murmansk late last year. This summer it will be hauled to the Prirazlomnoye field, 40 miles offshore in the Pechora Sea and another 400,000 tons of ballast added to hold it firm on the sea bed, sixty-five feet below. The structure's enormous size, strength and weight should be sufficient to subdue the crush of Arctic ice in these shallow seas.

Much further out, almost 400 miles from shore, work is continuing at Shtokman, the second-largest gas field in the world. This is the most ambitious engineering project in the entire Arctic. Here the water is much deeper (1,000 feet), so any production platform must float rather than sit on the sea bottom and be capable of dealing with heavy fast-moving ice and occasional huge icebergs. A planned pipeline carrying the gas to shore will be longer than any built in this environment. Gazprom, Norway's Statoil and France's Total are working to bring it into production with 2018 looking like a possible completion date, although falling gas prices may yet undermine the project.

In yet another ambitious move into the offshore Arctic seas, BP is teaming up with Rosneft to explore a rich oil field to the east of Novaya Zemlya in the Kara Sea. Here the water is around 300 feet deep, shallow compared to the 5,000 feet of BP's Deepwater Horizon site that went so wrong, but likely too deep to produce oil using a bottom-grounded structure like that at Prirazlomnoye. With ice cover for two-thirds of the year, new technologies will have to be developed for floating production vessels that can cope with the ice, or for sea bottom facilities that can work continuously beneath the ice. No one has ever produced oil in these conditions, yet alone tackled an oil spill. As part of its agreement with Rosneft, BP will set up an Arctic oil technology institute; if the challenges of the Kara Sea can be overcome, then the rest of the Arctic may look much easier—assuming that future demand for oil pushes the price high enough to tackle these expensive far frontiers.

Back in North America the exploitation of the Arctic seas is proceeding very much more cautiously and the priorities are very different. Russia's wealth and power come from energy. In 2007, the energy sector accounted for one-third of Russia's GDP, 60 percent of its exports, and half of all government revenue. With existing oil and gas developments passing their peak, Russia must develop more. The Arctic seas are where Russia is going, lawsuits do not stand in its way, and warnings of risks from environmental groups are not slowing it up.

In contrast, Shell's plans to drill in the Beaufort Sea, close to the coast of Alaska are on hold until at least 2012. The project has been delayed at enormous expense every year since 2007, in the face of legal and regulatory challenges. In the aftermath of the BP Deepwater Horizon spill, the fate of the Chukchi Sea leases sold for \$3.4 billion in 2008 is also on hold while the Interior Department reviews the

potential impact of a very large oil spill in the Arctic Ocean. Only on the west coast of Greenland has offshore oil exploration been going ahead. North America has seen a boom in shipping, not because the Northwest Passage is opening for trade, but because tourists and cruise ships are flooding to the Arctic, sometimes sailing into dangerous, uncharted waters. "Four years ago, we used to have 25 large tourist ships [around Greenland]," says Aqqaluk Lynge, chairman of the Inuit Circumpolar [2] "but last year [2010] we had more than 200." It is just luck that so far there have been only groundings and no major disasters.

Cooperation not Conflict?

Amid this rapid change, the good news is that there has been a remarkable outbreak of cooperation, not conflict, among the Arctic nations that border its seas. When a Russian miniature submarine planted a titanium flag on the seabed beneath the North Pole in August 2007, some western politicians panicked that Russia planned to seize territory in the old-fashioned way and we were entering a new era of conflict. That has proved false.

At in a meeting in Ilulissat in Greenland hastily arranged by Denmark soon after the Russian flag reached the seabed, the "Arctic Five" (United States, Russia, Canada, Norway, and Denmark-Greenland) killed any idea of an aggressive race to seize the North Pole and recognised that, "an extensive international legal framework applies to the Arctic Ocean." That legal framework is, of course, the Law of the Sea (UNCLOS), which rules that an "extended continental shelf" can only be claimed through geological data proving the sea bottom is a true, shallow extension of the land. After Ilulissat, all the frontline states have been out gathering data for their claims, and the good news is that are doing so cooperatively, often sharing research ship cruises.

Even better news came three years after the flag planting, when a newly cooperative Russia unexpectedly resolved its contentious 40-year old Arctic border dispute with Norway. The new border line was ratified unanimously by the Norwegian parliament in February 2011, removing at one stroke the Arctic's most dangerous dispute for a NATO-Russia confrontation.

Other cooperative efforts are following. The wider group of eight Arctic nations (the "Arctic Five" plus Sweden, Finland and Iceland) which are members of the Arctic Council, will sign an agreement to coordinate their search-and-rescue operations across the Arctic in Nuuk, Greenland in May this year.

Such a flurry of cooperation is welcome. But the Law of the Sea can't settle all potential territorial disputes among the Arctic five. From the geological evidence which is now pouring in, it seems very likely that Russia, Canada and Denmark-Greenland, will all have legitimate but overlapping claims to enormous areas of their nearby shallow shelf seas as well as along the shallow ridges that cross the Arctic. The question of who owns the Arctic will become one of how to settle boundaries when legitimate overlapping claims meet far out to sea. The Law of the Sea leaves it to the nations concerned to negotiate their boundary lines.

That is a job for the future and does not suggest a return to the bad old days of the Cold War when there were NATO bases in northern Norway, Greenland and Iceland facing Soviet bases in the Kola Peninsula, with both sides ready for an invasion by the other. As Rear Admiral Trond Grytting, chief of the regional military crisis headquarters in Bodo on the north coast of Norway, put it in 2009: "the Cold War danger of inter-state or industrial war is today considered close to irrelevant in the north simply because it is impossible to see what can be gained. Military confrontation and tactical engagements in order to achieve political objectives can on the other hand not be ruled out."^[3]

There is no point now in viewing the Arctic through the Cold War lens. Norwegian Foreign Minister Jonas Støre drove that point home speaking to reporters in Tromsø, Norway in January 2011. "This is not the cold war between the Soviet Union and the Warsaw pact and NATO. This is a new setting which we have to adapt to. And we have to get rid of all our mental maps which design the other as an enemy simply because that is how it used to be and see that we have to solve most of these issues together. That is happening. Norway and Russia are now striking deals you could not dream about twenty years ago. And that I think carries some hope that the Arctic can be a region of cooperation and not one of disputes."^[4]

Nevertheless, it is better to be prepared for "tactical engagements" that might be used to gain concessions over other disputes, including those that might take place far from the Arctic. Europe is very dependent on Arctic gas already. Overall, the EU takes around one third of its gas supplies from Russia, one third from Norway and one third from elsewhere. As Russia and Norway explore the high north,

Europe will become ever more dependent on the Arctic and on pipelines, including the new Nord Stream pipeline running through the Baltic all the way back to Yamal, for its energy. The fate of the EU and the Arctic are entwined. New trade routes opening through and around Russian waters will create new dependencies, involving China and the Far East too. Warming seas will also mean that valuable fish stocks will move in out of different fishing zones; some nations may gain but other lose badly.

In response to the changing situation, Nordic countries, some of them NATO members (Iceland, Denmark and Norway) and some not (Sweden and Finland), are moving towards closer regional military cooperation. In 2009, an influential report^[5] from former Norwegian foreign minister Thorvald Stoltenberg (father of the current Prime Minister) pointed out the "increasing geopolitical and strategic importance following the Nordic waters' role as production and transit area for oil and gas to the European markets and the development of the Arctic" and called for joint air, maritime and satellite surveillance and sharing of military resources. "None of the Nordic countries will over the next 15-20 years be able to uphold the quality of their armed forces without engaging in a closer Nordic cooperation," Stoltenberg wrote. In January 2011, the British Prime Minister hosted the first Nordic-Baltic summit of prime ministers from Denmark, Finland, Iceland, Norway, Sweden, Estonia, Latvia and Lithuania. That followed a meeting of defence ministers which the British Defence minister Liam Fox explained had as one goal "that we create a NATO entity that Finland and Sweden feel a little more comfortable with, that we give further security to article 5 [mutual defense] in the Baltic states by being a nuclear power as part of that grouping, and that as a NATO grouping we are better able to deal with regional disputes with Russia."^[6] The Russian media reacted unfavorably to what they saw as an attempt to create a new "mini-NATO" of the North.

A Babble of Voices

The way new groupings are now being created highlights the bigger problem facing Arctic governance. A growing number of Arctic and non-Arctic nations and sub-national and cross-national groups, along with numerous NGOs, now want to have a louder voice in Arctic affairs, and they do not want to leave decisions to just the club of the "Arctic Five."

Finland and Sweden are two Arctic nations which lack that prime location facing the Arctic seas although they have territory within the Arctic, and have been busy with new Arctic strategies. Finland now hopes to host a new EU Arctic research centre.

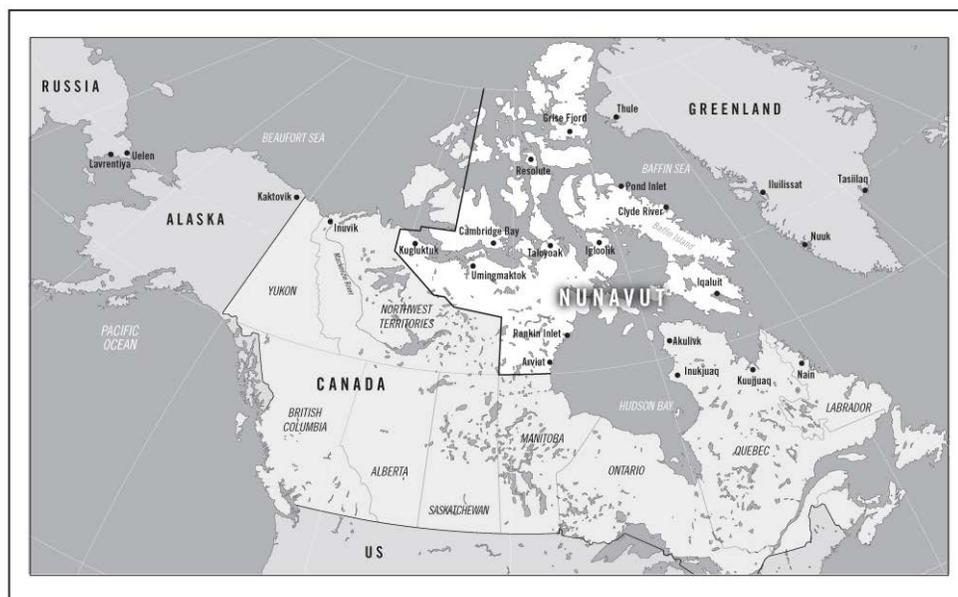
Iceland is surrounded by sea but is technically just a little too far south to be a true Arctic nation. That is not how the Icelanders see it though. "We consider ourselves to be an Arctic coastal state," said Össur Skarphéðinsson, Iceland's Minister of Foreign Affairs, in January 2011, "we want to be included not excluded in deliberations on the Arctic region."^[7]

Other nations and trans-national groupings, including Japan, Korea, China and the European Union, also want a seat at the Arctic table, now that its potential as a short-cut across the top of the globe and its enormous resources are apparent. China's rapid increase in the interest in the Arctic is particularly striking.

China is investing in a second icebreaker, meaning that it may overtake the US in the number of operational vessels, and is investing in Arctic research and its station on Svalbard. The largest embassy in Iceland belongs to China. Should a trade route open between the North Pacific and the North Atlantic then Iceland is well placed to provide a hub port at its Atlantic end. Recently, several high-level delegations from China, and one from Singapore, an established Asian hub port, have visited Iceland although nothing concrete has been agreed. "I'm feeling like a girl at her first dance, being flattered by all the attention," Foreign Minister Skarphéðinsson joked recently.^[8] Soon that attention may grow serious. Ships with Chinese crew and with cargoes bound for China have been among the first through the northern passage. The oil, gas and mineral wealth of Russia and Scandinavia's Arctic region are of tremendous interest to China and the northern route may place them within easy reach. In November 2010 the China National Petroleum Corporation moved quickly to sign an agreement with the Sovcomflot Group to develop "the transportation potential of the Northern Sea Route, both for delivering transit shipments of hydrocarbons and for the transportation of oil and gas from Russia's developing Arctic offshore fields."^[9]

Then there are cross-national groups demanding greater control over the Arctic. Most powerful of them are the Inuit, with 100,000 of them living in Greenland and Canada and smaller numbers in Alaska and just 1,600 remaining in eastern Russia. There are the Saami people, living across Norway, Sweden,

Finland and the Kola Peninsula of Russia who are moving towards greater unity and recognition; and many different indigenous groups spread across the top of Siberia.



The Inuit are of special importance as they have gone furthest towards gaining autonomy. Greenland, with 87 per cent of its 56,000 population Inuit, voted in 2008 to move towards economic independence from Denmark, which currently provides an annual subsidy equivalent to \$10,000 per head, and on to political independence. Economic independence means development of mining, oil and hydropower for aluminum smelting, alongside fishing. In the enormous Canadian Arctic territory of Nunavut, created in 1999, 85 per cent of the 30,000 population are Inuit and many powers have been devolved to its territorial government. It is no secret that Nunavut residents would like to see far greater devolution, with powers over their own affairs more akin to that of a Canadian province, rather than a territory. Canada has ten provinces and three territories, and a very recent devolution agreement-in-principle between the Northwest Territories and the federal government has raised hopes that Nunavut too will gain control over the royalties that would flow from oil and mines.

Inuit across the Arctic are increasingly speaking with one voice through the Inuit Circumpolar Council, especially as they have felt left out of discussions among the Arctic Five. In February 2011, Inuit leaders met in Ottawa to seek a common front on the kinds of Arctic mining and offshore drilling they should support. They did not agree on everything, in part because of Greenland's special enthusiasm to develop its resources. But leaders have always agreed that Inuit must be the first to benefit from minerals or oil found on their territories. "We cannot let industry from the outside simply walk in and take what we believe is not theirs," says ICC chairman Lyngge. "When Arctic resources are taken from our homeland, who will ultimately benefit? Is it those who have lived in the Arctic for thousands of years? Or is it those from the outside? Is the language of investing just a camouflage for taking?"^[10]

The position of indigenous people has been strengthened by the UN Declaration on the Rights of Indigenous People, adopted in 2007. Among other things, it specifies the right to redress for any resources taken from their lands without their "free, prior and informed consent". Although it is a non-binding declaration it has won support from the Obama administration and reluctant support from Canada. Inuit expect to set out their position on resource extraction at the next Arctic Council meeting in Nuuk, Greenland in May.

With so many voices demanding to decide the future of the Arctic, the key issue is how they should all be represented and what legal regimes should apply. The Arctic Council is the region's most important high-level forum, with decisions reached by consensus among the eight Arctic states (the Arctic Five plus Iceland, Sweden, and Finland) along with "permanent participation" from the Inuit Circumpolar Council and five other indigenous groups. A range of non-governmental organizations have permanent observer status, as do representatives from France, Germany, Poland, Spain, the Netherlands and the United Kingdom.

The council has no authority to make laws or set regulations, but it has been able to steer the priorities

of the Arctic nations and issue authoritative reports (on Arctic climate change, for example) which have driven action by other bodies. Although the council lacks power, it has enormous influence. A strengthened Arctic Council is generally seen as the best hope of bringing all those with an interest in the Arctic together. A key issue is that the EU, China and Japan have so far been denied permanent observer status at the Council, with the EU having significant disagreements with some members of the Council.

The EU contains Arctic states in Finland and Sweden (Denmark is a EU member but semi-autonomous Greenland quit in 1985 over fishery policy) and Iceland is getting seeking to join, but the union has met vigorous criticism from Inuit within Canada and Greenland. They are angry at bans on importing seal products into the EU, imposed by the European parliament to please animal rights activists. Many Inuit communities which exported sealskin in the past have been seriously hurt. A legal challenge to the ban is underway at the European General Court and the World Trade Organization has been asked to intervene, but the issue remains a serious obstacle. There are also differences between the EU and Norway over the status of the potentially oil-rich seas around the islands of Svalbard. Norway, which has sovereignty over Svalbard, sees them as part of its own continental shelf while the EU regards them as included within the unusual arrangements that give right to exploit Svalbard's wealth to all signatories of the 1920 Svalbard treaty (see "The Strange Case of Svalbard" in *After the Ice: Life, Death and Geopolitics in the New Arctic* for a fuller explanation)

It is not yet clear whether the EU and other nation's fuller inclusion in the Arctic Council can be agreed at its next meeting in May. Beyond that, there appears to be a consensus that the Council will have to meet more often, must have more resources to back it up, and be more inclusive, but without imposing on the special rights and requirements of Arctic residents. The best analysis of next steps comes from a set of independent experts who got together as the Arctic Governance Project.[\[11\]](#)

New Rules from Old

Clearly much remains to be done. If there are no agreed rules to stop them, ships that aren't really suitable for the Arctic could begin to travel there and risk oil spills. Among those ships there may not just be over-enthusiastic tourist liners but also drug smugglers seeking un-policed routes and even terrorists. And there will certainly be pirate fishing boats which will chase new stocks as they move into the newly warming Arctic if they can. Ships are very mobile and fish, whales, birds, and drifting oil spills don't recognize national boundaries, so it is not effective for each part of the Arctic to make up its own regulations. Nor can bodies which are responsible for just one sector (shipping or fishing, for example) build the best set of rules to protect the Arctic environment if each tackles its problems independently. Stresses from different causes (pollution plus overfishing, for example) add up, so the only effective way to look after the Arctic is by "ecosystem-based management" which looks at all the impacts from different causes as a whole.

There is much in existing international rules and the Law of the Sea that can be used to help protect the environment. The Law of the Sea's Article 234 on "Ice-Covered Areas" allows states to apply rules on pollution that are stricter than international standards within their exclusive economic zones if they are ice-covered. Article 211(6) on "Pollution from Vessels" provides opportunities to protect defined areas that have special "oceanographical and ecological" conditions, after consultations through "the competent international organization." The International Maritime Organization (IMO), a United Nations body based in London, is one such organization. Annexes to its International Convention for the Prevention of Marine Pollution from Ships (MARPOL) allow "special areas" to be protected, which can include entire seas. The Mediterranean and Baltic seas have special protection against oil spills, for example.

Critical habitats can be identified as "Particularly Sensitive Sea Areas." Once an area is approved, as the seas around the Galapagos Islands and the Great Barrier Reef have been, maritime activities can be controlled and ships rerouted. The IMO also has a voluntary Polar Code (the IMO Guidelines for Ships Operating in Arctic Ice-Covered Waters) which it is now working to strengthen and make mandatory under its International Convention for the Safety of Life at Sea (SOLAS).

Still there are some very obvious gaps in Arctic governance. Quite deliberately, the Arctic Council has no mandate to deal with security or military issues. The Council has a weak interface with industry—including all those big international companies that are rushing to exploit the Arctic. Although international rules have been set up to deal with ships and fish, which move among different nations' waters, regulation of the oil and mining industry, and the way in which environmental risk are assessed,

are dependent on each state's separate legislation, even though oil spills travel and can easily become international. That is why the Inuit Circumpolar Council is now calling for an international fund to deal with compensation for Arctic oil spills. A hopeful sign is that Norway, which has some of the best ecosystem management and oil drilling safety rules, may set high standards as it works with Russia in the Barents Sea following the resolution of their border dispute.

No one yet knows where such rapid change will lead. Arctic nations and all these other groups may cooperate, or quarrel, over long lists of things that each group feels are urgent. Perhaps a bigger set of rules and structures may be successfully put in place within the overall constitution provided by the Law of the Sea and looked after by the Arctic Council. Or maybe the five nations that front the Arctic will try to slam the door on everyone else. We may see cooperation, conflict, or a patchwork of partial solutions. The worst prospect is that the Arctic may simply outrun any attempt to govern it. The nightmare scenario would be a combination of environmental crisis and species extinctions, unregulated development and profiteering, disenfranchised indigenous peoples, and unresolved border disputes.

The Arctic ice could be approaching a tipping point at which it disappears ever faster, putting more stress on indigenous communities and opening up more parts of the Arctic, without time to make the best decisions. In the United States, it takes an estimated ten to fifteen years to win the budget for a new icebreaker and then design and build it. In a Korean yard, a new commercial icebreaking oil tanker can be ready in three months. If the ice vanishes in five or ten years, not thirty, the government of the Arctic and the protection of its environment and people could easily slip out of control while there is still just a babble of competing voices. And if there is no action on climate change, the Arctic may take its revenge on the rest of the world as it warms yet further. Already northern hemisphere weather is being altered by a warming Arctic, further down the line are huge releases of methane from thawing permafrost that will change the entire world.

About the Author

Alun Anderson is the former Editor-in-Chief of *New Scientist* magazine and author of *After the Ice: Life, Death and Geopolitics in the New Arctic*, published: North America, Harper-Smithsonian Books (2009); UK, Virgin Books (2009); Finland, ArtHouse (2010), and China, CITIC (2011). He helps run *Xconomy* (www.xconomy.com), a Cambridge, Mass.-based start-up company that brings together high-tech scientists and venture capitalists in the innovation community.

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