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Images of the Arctic and the Futures They Suggest

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Good evening ladies and gentleman, friends and colleagues. Thank you -- Roberta for that very kind introduction.

It is truly a pleasure to be here, it is difficult to express how special an evening this is for me.

I am very excited to be here in the Jefferson Building -- Like all here I deeply value books and this Library in particular – and I have admired Jefferson the person since playing at being him as a young man in the musical 1776. I very much appreciate this opportunity from the Library, and wish to thank Roberta Shaffer, Bob Newlen and Stephen Clarke and the staff.

I am also thankful because this evening various circles of my life come together for a moment. The circles are four. First, there are family and friends – thank you for all your support. Second, there is the circle of friends concerned with the future of our oceans, a circle that has at its core my classmates from the

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1 President, American Society of International Law; C. William Maxeiner Distinguished Professor of International Law, University of California at Berkeley.

2 The boldfaces numbers and text are references to the slide # in the corresponding powerpoint presentation.
Coast Guard Academy. Third, there is the circle of friends who spent a part of their lives at the University of California. Fourth, there is the circle of friends associated with international law generally, a circle that has at its core my fellow members of the American Society of International Law.

There are numerous distinguished people here tonight that I should thank personally. I hope they will bear with me as I wish to dedicate tonight’s lecture to a particular couple who served this nation with great distinction and who are at the center of the circles of the Coast Guard Academy, the University of California at Berkeley and international law, as well as friends. They are G. William Miller and Ariadna Miller. Bill Miller was born in 1925, he graduated from the Coast Guard Academy in 1945. While in Shaghai in 1946, he met the woman who would be his partner in all things – Ariadana, she having grown up in Manchuria -- her father being in the White Army -- and later having relocated to Shanghi. Together they would have many adventures. They lived in Alameda together while Bill studied at law at Berkeley. From there they rocketed forward.

2. Bill at CGA

This photo shows Bill at the Coast Guard Academy in 1972, the pretentious young man in the middle is me, at that time Bill was the CEO of Textron.

3. Bill

He went on – with Ariadana always there -- to become, among other things, the Chairman of the Federal Reserve Bank as well as Secretary of the Treasury. A great American and citizen of the world, Bill passed from us in 2006, he is missed.

As many of you know, Susan and I have been in Washington, D.C. for
this academic year, we have had a delightful time, and we are particularly thankful for the time we have had with Ariadna Miller.

She is with us this evening. I ask that you please join me in celebrating Bill Miller and his fantastic wife and partner, Ariadna.

4 The Pack Ice

My lecture today concerns the Arctic, Bill Miller would have welcomed it, and like him I will attempt to speak to the big picture and wander between disciplines as the topic requires.

My main theme is that the many discussions of the Arctic that we hear can be approached, perhaps understood, in terms of three images. Likely more than most of you, I have listened to numerous speeches regarding the Arctic and its future. In my experience, the speakers can be like ships passing in the dark – they come from different directions, they go different places, and they are concerned with themselves and somewhat unaware of the others. Some are optimistic about the opportunities that change brings; some fear such change. Needless to say this can be confusing, if not dissatisfying for audiences. But in reflecting on these speeches, I find each speaker’s thoughts are animated by an image of the Arctic and my suggestion to you is that we can identify these images, they tell us something about the politics and law of the Arctic, something about the Arctic as a region and something about the Arctic’s future.

In other words, today I seek to describe visually what I have been hearing. Turning that around, I seek today to provide to you a diagnostic tool when listening. I must say it is quite satisfying when I hear someone say “he’s just stuck in image 2.”
To a give a sense of where I am going today, I will present three images, the first of these taking the longest, I will then turn somewhat briefly to four points about the future leaving us time for questions.

So let us turn to the images

5 The Impassable area

The First Image – The Impassable Area

The first image of the Arctic is the image that has dominated our vision for centuries. This is the image certainly of our parents and it (in the true sense of this image) is gone. It is gone even though as I will explain it persists in a different way.

This image is in black and white. (although one thing I love about this photo is that it is in color) In it, pack ice – apparently empty of life, extends to the distant horizon beneath a slate grey sky. In this image the Arctic is inhospitable and impassable.

6 Franklin Expedition

In this image, it is daunting to even think of skirting the edge of the Arctic Ocean as Franklin’s ill-fated expedition attempted in 1845.

7 “Man Proposes, God Disposes”

And that primal humbling power of nature is evident for example in Edwin Landseer’s 1864 comment on the Franklin expedition “Man Proposes, God Disposes.”

8 Back to pack ice

So here, the threat that the USSR and the USA posed for each other during the Cold War was not that they would come across the ice, but rather
that their missiles would come over the ice. Indeed, here one does not think of crossing the Arctic Ocean, but rather one imagines heroic explorers reaching the North Pole only to quickly return. (I found it interesting recently when as I looked for arctic books in an antiquarian bookstore near here in Georgetown where I found they were placed next to mountains – indeed how appropriate because the arctic in this image is like a flat mountain with the peak being the pole and explores racing to it and back.)

9 Perry

It was only in 1908 that Robert Perry, along with Mathew Henson and four inuits, were the first people to reach the North Pole. It was only in 1926 that first Amundsen and then Bryd were the first individuals to fly over the North Pole.

10 Polar Star

I sailed to the Arctic as Navigator and Ship Salvage Diving Officer aboard the USCGC Polar Star in June of 1976 and, even then, we met the seasonal ice of the Arctic south of the Bering Straits and the permanent pack ice just North of Alaska; even then, no American surface vessel had broken ice through to the North Pole. Now I have wonderful stories of an embarrassing miracle and of death and dark waters from my time in the Arctic, but I raise this personal point for a different reason.

11 Dropping Faster

And that can be seen in a graph that I simply find fascinating. This graph is from a 2007 study that appeared in Geophysical Research Letters. The y axis is the extent of sea ice coverage in square kilometers in the Arctic in September while the x axis indicates the year. I will return to this graph later, but I want to
note two things now to set up my point. If you exclude the bright red line for a moment, you will see some 13 others lines of declining sea ice coverage based on computer models, the deep black line represents the mean of those 13 lines. Now note two things. First, none of the models predict as fast a drop as has occurred in fact – where the observed actual drop being indicated by the red line. Second, the drop starts around 1975 when I was in Arctic. No, I was not the cause. The point of all this?

12 Back in water

When I was diving amidst the ice, we were located significantly north of Alaska, and we had broken pack ice for a significant amount of time to reach that spot. Today in September of any given year, that area is ice-free. All this to emphasize that it is in our living memory, the image of an impassable area (in its full sense) has passed, is gone.

13 Dormant

In this image, both law and politics are dormant, asleep. As a noted Canadian scholar of the region, Douglas Johnston, wrote in 1970, “[t]he Arctic is largely hypothetical.” Boundaries with neighbors are sketchy and unclear, but there is no urgency to resolving them. In general, the citizens of the circumpolar states live in the southern regions and if the native peoples that live in the North wish to move about as if these unclear boundaries do not exist at all, there is little harm in their doing so.

14 Perry

In 1908, after Perry accomplished his feat, he sent a message to President Taft – a President who was no shrinking violet – Perry’s message announced

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that the stars and stripes had been nailed to the North Pole and offered to place the Arctic at his disposal, Taft responded “thanks for your interesting and generous offer. I do not know exactly what I could do with it.”

**15 Dormant**

In this image, it may very well be that valuable resources exist in the region, but their exploitation, like the exploitation of the manganese nodules of the deep seabed, may not be technically possible and, even if possible, do not yet make commercial sense. It may be possible to refer to an Arctic region, and it certainly is a region for the indigenous peoples populating the rim of the Arctic, but in another sense it is a region delineated more by its absence rather than by its presence. Let me repeat for this is the deep sense of this image it is a region delineated more by its absence rather than by its presence.

This deep sense of the image is gone. My brother’s grandson who is present may think of the Arctic as a tough environment much of the year, but it is not an impassable area.

So a lesser sense of the image (what we might call the “difficult area of the world to operate” image) will continue.

**16 Graph**

If you haven’t noticed I have not asserted thus far a cause for the warming in Arctic yet. The 13 models in the graph I showed a moment ago assume the cause is human induced change in climate. But in one sense it does not matter yet because the red line shows what in fact is happening and no one – I repeat no one -- disputes the red line.

As far as climate change, assuming that it is the cause of a warming of the Earth’s atmosphere that is sufficient to reduce ice coverage, it is important to
remember that the mechanism of climate change has nothing to do with and does not alter the angle of the Earth. Thus, this lesser first image remains in the winter season. The Arctic may be getting warmer and more ice free in summer, but it is no less dark in winter. The winter ice may become an annual, rather than perennial, ice coverage and therefore not as formidable, but it will not disappear. Indeed, one estimate is that it would take an average global 30 degree temperature rise to render the Arctic ice free in winter.

Recognition of the persistence of winter is crucial because the warmer visions we will find in the second and third images must be seen in seasonal terms. Shipping routes will be used for only certain months of the year, not the entire year, and there may be transition periods where the risks of such use increase.

17 Oil rig

Likewise, the anticipated expansion of offshore oil and gas activities must be seen in terms of the ability of such structures to withstand the structural demands of the winter season. The remnant of the image of an inhospitable place is one that calls for caution. In this sense, the call of many for development of the infrastructure for safety in the Arctic is a critical, critical, point.

18 Image 1 inverted

Images are always seen from a certain point of view. This means that we need pay attention to our own point of perspective, and need recognize that seeing the first image as one of an impassable area is to see the Arctic from the outside.

19 Home
To those inside, the indigenous peoples of the Arctic, it is home. Here I do not use the word ‘home’ in a southern romanticized sense, but merely as a fact. This ice-covered area is home to the Arctic peoples.

For the indigenous peoples of the Arctic, law and politics are not dormant. Rather, the law and politics is theirs, it is particularly local, and it is primarily delineated by the extent of their particular community.

In a sense, the warming that leads to the loss of the first image presents a situation with parallels to the age of discovery, but with a twist. In the past, Europe did not know of the Americas. Today, the world knew of the Arctic but was not particularly interested because it was for most inhospitable. In the past, the Americas were discovered. Today, the Arctic becomes less inhospitable and as a new Arctic emerges it is, in a sense, also discovered. In the past, the peoples of the Americas awoke to find European peoples claiming their lands. Today, the peoples of the Arctic awake to find the peoples of the South more interested in their lands where their homes are.

The key thing to recognize here is that not only the first image of an impassable area is gone, but the pristine isolation of home seen in the mirror of the first image is also gone. Thus challenge to the indigenous peoples is twofold - their lands are changing and others are now more interested in those lands. But stories are always more complex, so a bright note: I was at a meeting in Alaska where the elder of a tribe was telling his story and addressing in a sense the loss of image 1 and he said that it was perhaps not so difficult for his people because the oral history of his tribe reaching back generations spoke of a time when the Arctic was green and that that time would come again.

20 The Pack
So what do we take away from the first image.

First, whether you see it as inhospitable or as home, the deep unchanging sense of this image is gone.

Second, what takes its place is an image of a region not delineated by its absence from the map but rather thought of as a region that is changing and that remains for most of the year an area that is difficult both to live and operate in. This difficulty reminds us to approach this region with caution.

Third and last, the awakening of interest in the Arctic involves a transition. It means a transition for those outside and for those who call it home, a transition to be approached with sensitivity. It also means – and this is important that we should not assume that we have fully awakened from our long dormancy yet to the full range of issues present. Let me give you an example of a question that is still so dormant, your reaction may be like that of President Taft to Robert Perry.

21 Oil Greenland

I will come back to this map in a moment. I use this map to draw your attention to Greenland. And let me share one fact, namely that Greenland is an autonomous political unit of Denmark. The dormant question is what is US policy -- long term – regarding economic and political relations with Greenland, for example should Greenland be invited through Denmark to have some relationship with NAFTA, is Greenland only a subunit of Denmark or of Europe, what should its concurrent relationship be with Northern America?

In the dormancy of the first image, If I brought up Greenland, President Taft would say please reschedule this gentleman’s appointment. Yet Greenland has the largest reservoir of fresh water in the world, it has an unknown, but in
all likelihood significant, amount of oil and minerals. It is five times larger than California, or to put it in East Coast terms, it is 12 and a half times larger than Florida. Yet it has a population of only 55,000 people. And at a conference in Germany, a Chinese scholar predicted that China in time will invest heavily in Greenland. Again I raise this only to emphasize that we should not assume that we have fully awakened from our long dormancy yet to the full range of issues present in a changing Arctic.

22 image 2

The Second Image – The Ring

The second image is that of a 2005 NASA composite photograph depicting the extent to which summer ice has retreated in recent years. Here the center of the Arctic remains impassable to all but icebreakers. And even for icebreakers such passages take time, consume fuel, and involve some risk. But although the center remains impassable, there is now a ring of water around the Arctic Ocean. In contrast to the impassable sense of the first image, there is now the possibility of following the coastline skirting the land on one side and the ice on the other.

23 Prox Bilat

In this image, the arctic nations are more aware of the arctic, and they speak of their Arctic policy. But the crucial twist is to appreciate that this image, and the law and politics implicit in it, are actually deeply nationalistic, deeply inward looking.

24 Oil

Why do they focus inward? Warming has resulted in the reduced ice, but it is oil that drives attention.
In this image each coastal state looks inward and asks what value – what oil or gas, what fish -- is in its portion of the accessible ring. In this image, each Arctic state focuses on its portion of the ring and as a result each in turn focuses on its borders with its immediate neighbors. It is in this sense of a focus on one’s *immediate* neighbors, that I say this image involves not only involves the bilateral, but emphasizes *proximate* bilateralism.

A few notes on this map

First -- you should note here for the first time are the names of the countries. In image one, it is all dormant, it hardly matters what countries surround the Arctic. And we see in this map that there are two groups - -the five and the eight. . . .

Second, this is a very simplistic rendering of the USGS map regarding oil and gas in the Arctic.

25

Third, the estimate is 90 billion . . . 3 , 4 years of oil at current consumption rates

26 - Boundaries

If one looks inward, then quite immediately, each Arctic state becomes more concerned with the location of its borders with its neighbors, its immediate neighbors, so that it might understand what belongs to it.

These boundaries are more complicated than they might seem. And this is because in the oceans there are multiple zones and therefore multiple boundaries. One boundary that may be familiar to us is the territorial sea of 12 miles in width – this is as much as part of the nation as the land. The only difficult issue with the territorial sea is agreement on the line from where the 12
should be measured not only because it pushes the line out but because inside of that baseline, the waters are internal and ships do not have a right of innocent passage.

This map primarily emphasizes the exclusive economic zone which goes from 12 to 200 miles and which gives the adjacent coastal state rights over the economic interests of the water and seabed (i.e. the fish and the oil). What is important to know is that this EEZ as it is known is an innovation of only 30 years or so. Previously there was a sharp divide between the territorial seas and the high seas which no state could claim therefore was open to all. This is important in the map …

There is a third set of boundaries – not depicted in this map -- where the rights in the seabed can go farther than 200 miles, under the water above.

27 28 Norway Russia what’s left
29

The net result will be that much of the seabed underneath the white …

What should you take away from this situation.

First, usually thought it is all divided up but that is not accurate … On the hand, …

Second, it is often said in the press that there is a land rush underway in the Arctic with potential for conflict. That is not true. The oil that is known about is as we saw closer to shore. What we more see in the Arctic is the staking out of one’s claim, the diplomatic resolution of most boundaries, and indeed joint exploration of the Arctic seabed. If one’s goes around the Arctic ocean
most boundary questions have been substantially resolved … There is one exception and that is the boundary here between the United States and Canada.

30-31-32 Beaufort Sea

33 - 34 two arcs

Fundamentally, the second image is nationalistic and inward looking. States look outward but only to understand what is within. But secondarily, in this image there also is an emerging Arctic region, that more properly should be thought of as two emerging Arctic arcs – that along the Northwest Passage and that along the Northern Route.

One driver in the second image is oil as mentioned. A second driver, but secondary, is shipping, the possibility of avoiding thousands of miles in passage. As the Northwest Passage opens up, the recurring discussion between Canada and the United States takes on a new sense of seriousness. For Russia whose coastline encompasses almost all of the Northern Route, the previously limited Russian practice regarding the right of such passage is examined more closely.

35, 36 37 38 a word more about ice

and in looking at these two routes, a few more words are required

35 First, these routes are seasonal -- yes, the summer ice is retreating
36, but every winter, it returns
37 Second, the routes are not equal because even if less …, far greater on Canadian

38, Third, this is the conflict. . . A moment ago, it is not oil, . . . but here in the secondary driving force, shipping, insufficient attention is being paid to this strait.
So what do we take away from this image –

Two major things are happening

The primary dynamic is that the reduced ice coverage and the possibility particularly of oil leads the five arctic states to look inward and to stake out their claims as to the edges of what is theirs. The rules to do this by are relatively clear, the disputes are not many, actual exploitation is still some ways off particularly along the outer edges.

The second dynamic is driven by savings in shipping and this dynamic leads to the emergence of two arcs - the Northwest Passage and the Northern Route. The Northern Route is the more open, it is almost entirely above Russia. The Northwest Passage is more difficult and Canada raises questions concerning it. Theses routes will be seasonal, there are serious questions of safety and more and more focus needs to be paid to the Berring Strait.

40 3rd image

*The Third Image – The Semi-Enclosed Ocean*

The third image is an image of the Arctic in the not too distant future, perhaps by 2030, perhaps earlier. In the summer of that year, for the first time, there is no summer ice. It is an image of a semi enclosed ocean. (Note I am purposefully non legal … ) It is important to appreciate that this semi enclosed ocean is five times larger than the Mediterranean. Likewise, it is important to appreciate that even if the seabed of the Arctic was substantially divided up between the circumpolar states, a significant part of the superjacent waters of the Arctic Ocean will be high seas open to fishing and almost all of it will be open to navigation.
This image leads to two significant shifts from the second image.

First, the circumpolar state look not only to one’s neighbors on each side so as to define themselves, but each looks outward across the sea as each state recognizes that it is a inseparable part of the larger arctic region (and here the word “region” is used in its full sense). Similarly this shift in focus outward leads the circumpolar states to see their respective places in the Arctic. In the second image, each state is looking in and in this sense each is equal. But as one looks outward at the region each state sees that in terms of area some are more equal than others. For example, you are in school as a child and all the desks have a lock. The teacher throws a switch and they all open. Each child looks in to find what they have, each is equal as they count the number of pencils and erasers. But eventually, they look up and find not only that some have more and some have less they do, but they also see that some have far deeper and far more elaborate desks.

The second shift is that, like all semi enclosed areas, the states inside will become concerned with the states outside the sea entirely and the states outside will become increasingly interested in asserting their interests in the semi enclosed ocean.

Because of both of these shifts, in the third image, law and politics are concerned with governance of a shared (again non legal) area.

In the third image, many of the coastal development projects viewed as possible in the second image have come about. There are many more people in the Arctic and significantly more activity.
Over the past few years, several scholars and activists, anticipating the changes I’ve talked about have called for the Arctic to be an international zone, often make comparisons to the treaty governing Antarctica. Others see the analogy to Antarctica. The five arctic states endorse the division of Arctic waters and jurisdiction seen in this slide. For them this region is basically no different than other coastal areas and that the 1982 Convention on the Law of the Sea provides the basic framework of authority for the Arctic. As a practical matter, the five arctic states have defined the situation.

Nonetheless, it is not entirely under national authority and we may expect that the states of the rest of the globe will be come increasingly interested in the Arctic. In particular, there can be little doubt absent an agreed ban that the fishing fleets of East Asia and Northern Europe in time will begin to operate on the Arctic high seas, perhaps in significant numbers. Recall that fish are particularly sensitive to the temperature of water and have already been observed to be moving northward. Again governance will become important and, at a minimum, one will see, for example, the creation of one or more regional fisheries organizations in the Arctic. Simultaneously, as regional efforts at governance advance, we can expect that states outside the region will ask why the Arctic Ocean should be the province of a handful of states and seek to

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4 See, e.g., Scott G. Borgenson, Arctic Meltdown: The Economic and Security Implications of Global Warming, 87 FOREIGN AFF. 63 (Mar/Apr 2008). See also Stephanie Holmes, Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty, 9 CHICAGO J. INT’L L. 323, 348 (2008)(arguing that the Antarctic Treaty could serve as a loose model) and Donald Rothwell, “The Arctic in International Affairs: Time for a New Regime?,” ANU College of Law Research Paper No. 08-37 (2008)(arguing that “Could the Antarctic model be a useful way forward for the Arctic? There is in principle nothing to stop the Arctic States from looking towards an Antarctic Treaty-type model for the Arctic region. Such a Treaty would, however, only be a starting point. There would inevitably be a need for Additional Protocols to address specific issues such as navigation and shipping, seabed resource management, marine environmental protection, and the rights and interests of indigenous peoples.”) At pp 12-13.

5 See, e.g., John B. Bellinger, “Treaty on Ice,” N.Y. Times (June 23, 2008) at A21 (Legal Adviser of the U.S. Department of State arguing that although “[s]ome nongovernmental organizations and academics say that we need an ‘Arctic treaty’ along the lines of the treaty system that governs Antarctica . . . such a treaty would be unnecessary and inappropriate.”
globalize such efforts at governance at least for those areas beyond national jurisdiction. But again the choice in fact has already occurred.

But if the Arctic is heavily under national authority, then there is an absolutely crucial point to be made --

**43 Russia**

And that is the centrality of Russia

If one focuses on governance, then the critically important point to recognize is that successful governance of the Arctic depends greatly on Russia. It is often said that the policy choices of the United States, China and India are central to the question of climate change. So too will it be the choices of Russia that are central to the future of the Arctic.

**44 pie chart**

The Arctic as a semi enclosed ocean is dominated in terms of coastline by Russia and Canada. The United States is a powerful state with only a small percentage of the coastline of the Arctic. Canada has a long coastline but relatively less power as a state. Russia has both the longest coastline of any state in the Arctic and significant power as a state. As Mikhaylichenko observes: “Russia’s Arctic zone embraces almost one half of the Earth’s circumference in these latitudes.”

And if one broadens the criteria of presence, it is quickly apparent that in terms of population, economic activity, number of natural ports and watershed emptying into the Arctic Ocean, it is Russia that is most present in the Arctic.

**45, chart**
For example, watershed ... Caityln Antrim who is present today first helped me appreciate the significance of these watersheds describing them as several Mississippi rivers.

46,47, 48

The Ob, The Yenisei and – here the Lena

Population was more difficult to calculate, but if one looks to the number of people above the Arctic circle, Alaska 15,000, Canada 65,000, Russia 3 million.

49

The centrality of Russia to shared governance of the Arctic is a challenge in that the possibilities of successful shared governance are highly dependent on the regulatory capacities of the states involved. And in this regard, the reality on the ground is that the Russian regulatory state is a work in progress; a circumstance probably greater in the Russian hinterland.

Given these differences and the centrality of Russia, how are the five different Arctic states to work together at regional governance? The main institutional effort at Arctic governance at present is the Arctic Council. But although the Council has an innovative structure and has produced important studies in its short existence, it is also an institution of limited capacities with certain issues beyond its mandate.

50- radioactive wastes

And as I approach my closing, I would like to give an example of an issue that needs much more attention.

In general, this talk has avoided dwelling on particular issues, but here I make an exception.
Nothing has been detected in limited studies in the Barents Sea yet. But let me note that I asked a Scandinavian ambassador “isn’t your country concerned?” His frank reply was of course we are, but we have no evidence of a problem yet, we do not wish to induce a false fear in the public and, even more, if there was a problem, it is not clear what to do. But certainly there must be some midpoint between hysteria and indifference. This question will not go away. At a minimum, the area needs to be mapped and monitored and the technology to contain or trap the barrels needs to be developed now rather than later.

58 The good news

Having given described an issue, let me offer promise --

59 -Imagining the Arctic’s Future

So what should we take away from the third image and what conclusions would I draw generally about the Arctic’s future

Slide into 60

There are many conclusions to draw from the their image, but I would emphasize two –

First, the arctic region is large and most of it will be governed under national authorities. There will be regional fishery management organizations and there will be substantial free navigation under special rules of the
International Maritime Organization, but in the end much of the Arctic is under national authority.

Second, I have spent some time to emphasize that Russia will govern a substantial portion of the Arctic but it is important to recognize that Russia will go first in virtually every activity in the Arctic. We must remember that the tragedy surrounding Japan’s nuclear reactors damaged by the tsunami will affect the use of nuclear power elsewhere. So too will the experience of Russia in the Arctic affect domestic debates in all other arctic states, including the United States. In this sense it is essential that all work with Russia to ensure its success in the Arctic.

Finally, let me close with the observation that these three images exist concurrently and the belief that it is important that we attempt to hold them simultaneously in our minds and in our hearts. The general effect of warming is to give more influence to the issues present in the second and third images, and in essence to accelerate our moving from the first image toward the second image, and to a lesser degree, toward the third image.

But each image contributes an essential part of the Arctic’s future. The first image gives us a respect for nature in the Arctic, it reminds us to be cautious, and it carries in it a sense of loss that is appropriate. The second image in contrast carries within it a sense of opportunity and of excitement that is appropriate; it gives us frontiers and challenges. Finally the third image reminds us that the excitement that goes with frontiers and challenges can come at a great a price, it reminds that change brings both development and destruction.
and it instructs that the first and foremost challenge is that we govern our affairs responsibly.