



**THE NEW ARCTIC
IN
OUR ICE-DEPENDENT WORLD**

**A Lecture
by
the President of Iceland
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at
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My good friend Michel Rocard
Professor Jean Chambaz
Distinguished scientists, students

It is indeed an honour to address you here today, to be invited by the Université Pierre et Marie Curie to speak about the Arctic, its new importance in the global theatre of interests and concerns, how we increasingly recognize that we all live in an ice-dependent world, that the future of every nation, of people on all continents, depends dramatically on the glaciers and the sea ice.

For centuries the Arctic was a remote, hidden part of the world. Even in the early decades of the 20th century large parts of it were still undiscovered. The Icelandic-Canadian explorer Vilhjalmur Stefansson thus distinguished himself by going on expeditions to the northernmost Canadian Arctic and subsequently explaining to the British and the French settlers, the recent arrivals, the customs and culture of the Inuit population who for thousands of years had lived in harmony with nature.

The transformation of the Arctic in political and economic terms was then enhanced when the Cold War came to an end. Thus in the 1990s the eight Arctic countries decided to make the region in a sense 'Our Arctic'

by the establishment of the Arctic Council and an extensive network of associations and alliances. This vision has, however, in the second decade of the 21st century been moulded by an evolutionary stage which I have decided to call ‘The Global Arctic’ in order to signify the arrival of countries, not only from Europe but also Asia; all claiming to have a significant interest in the Arctic and requesting a seat at the table.

France was among the early arrivals, perhaps due to its long-standing scientific interests in the Arctic Regions, journeys rich in daring endeavours and discoveries but also marked by tragedies like the fate of the admired French explorer Jean-Baptiste Charcot who together with the crew of *Pourquoi-Pas?* met his fate on the shores of my country.

Due to this scientific record and long-standing political interest France was among the first countries to be granted Permanent Observer status in the Arctic Council. The appointment by President Sarkozy, later reconfirmed by President Hollande, of the distinguished statesman and former Prime Minister Michel Rocard as a special envoy to the Polar Regions also became a strong signal of French engagement.

I have twice had the honour to host Michel Rocard in Iceland, inviting him to address the University of Iceland’s open forum and the general public within the Presidential Lecture Series I established some years ago. The visits by Rocard have broadened the French-Icelandic dialogue and cooperation on the Arctic, and last year we signed an agreement on further scientific Arctic cooperation, celebrated when the leader of the ACCESS project Jean-Claude Gascard and the former rector of the Université Pierre et Marie Curie, Jean-Charles Pomerol, visited Iceland.

These cooperative efforts will hopefully be strengthened following the meeting I will have later today with President Hollande where Arctic issues will be among the primary topics on our agenda; it will indeed be the first occasion in the history of our countries that the Presidents will meet for a dialogue on the future of the Arctic.

Another indication of how the Arctic has entered the global dialogue is that in every meeting I had last year with Asian leaders, for example with the Prime Minister of South-Korea, Kim Hwang-sik, the President of Singapore, Tony Tan Keng Yam, and the Premier of China, Wen Jiabao, they all demonstrated strong interest in the evolution of the Arctic, inquiring when, not if, their countries would be granted the status of Permanent Observer in the Arctic Council.

Of course the richness of the Arctic resources – oil, gas, minerals, fish stocks, hydro and geothermal power – are largely the foundation of

this new interest, reinforced by the possible opening of the new northern sea routes linking Asia to Europe and America in a way which could potentially revolutionize global trade, transport and shipping as the Suez Canal did a century ago.

Some of these aspiring countries also display a strong scientific interest in the Arctic, especially in the relationship between the melting of the Arctic sea ice and severe weather events in other far-away parts of the world.

This was certainly a major reason for the remarkable journey undertaken last summer by the Chinese icebreaker Snow Dragon which sailed from Shanghai to Iceland along the northern route, close to the North Pole, a scientific expedition under the auspices of the Chinese Polar Institute.

When the Snow Dragon arrived in Reykjavík, it was the first time a Chinese icebreaker visited an Arctic state. Aboard were about sixty young Chinese scientists who had, along the way, carried out research on the transformations taking place in the Arctic.

I was honoured to receive them all at the presidential residence and to attend the Chinese-Icelandic Symposium hosted by the University of Iceland. There we listened to fascinating presentations by the Chinese scientists. Two of these were truly historic, since never before had representatives of a leading Chinese institute demonstrated publicly in the West how all of us, including the Chinese, now live together in an ice-dependent world.

The first described the relationship between the melting of the sea ice in the Arctic and weather patterns in middle and low latitudes in China, showing data demonstrating how the freezing rain in Southern China during the winter of 2007-2008 derived from the Arctic sea ice minimum of 2007. Thus, what happens in my Arctic neighbourhood has profound effects on the daily life of people in China, not 20 years later but within a few months.

The shrinking of the sea ice in the summer of 2007 was an unparalleled record. However, on the 26th of August this year, a few days after the Snow Dragon departed from Iceland, this record shrinkage increased even further. The extent of the sea ice was now at a new low. What is happening in China this winter? Northern China has experienced extreme winter, causing severe challenges to transport systems, power networks, food production and daily life. For example about 180,000 cattle froze to death out in the fields.

As the Chinese scientists demonstrated in Reykjavík in August the melting of the Arctic sea ice has dramatic consequences for China; thus justifying fully extensive Chinese research in the Arctic.

These Chinese conclusions are indeed consistent with the findings of the US scientist Jennifer Francis of Rutgers University in New Jersey, an expert on atmospheric science who showed that there is a correlation between increased heat in the Arctic and jet streams which in turn cause extreme weather events at lower latitudes.

The destruction by Storm Sandy in New York, New Jersey and other Eastern US regions a few months ago should therefore send the following message to the American political leadership: The disappearance of the Arctic sea ice is threatening life as we have known it. So it was encouraging to hear President Obama highlight these concerns in his second Inaugural Speech.

The director of the Chinese Polar Research Institute Dr. Huigeng Yang, also showed at the symposium in Iceland last August how the melting of the glaciers in Greenland and Antarctica could, due to rising sea levels, shift the coastline of China 400 km inland. A large number of Chinese cities, including Shanghai, Tianjin and Guangzhou, would then be totally submersed by sea. Beijing would probably become a costal city and the most populated and prosperous regions in China completely disappear to the bottom of the ocean.

I have, my friends, participated in conferences and discussions on climate change for more than two decades but when I listened last August to these young Chinese scientists I felt we had arrived at historic crossroads. In an open public forum, at a European university, in the presence of representatives of many countries, China was now bringing the following dark warnings to the Western World:

- First, the melting of the Arctic sea ice is creating severe weather hazards in China, affecting food production, infrastructure and economic development.
- Second, the retreat of the Greenland and Antarctic ice masses poses a monumental threat to the future of China; could in a worst-case scenario wipe its historic and most populous cities off the Earth's surface.

We have all heard doubters in the Western debate justify the lack of action on climate change by using China as an excuse.

But now we have witnessed an undeniable shift. China has brought a wake-up call to us all. The Snow Dragon carried the message last summer

on a journey instigated by the President of China, Hu Jintao, and announced by the Prime Minister, Wen Jiabao, on a previous visit to my country.

It is now up to us to show whether at these historic crossroads we are ready to respond to China, whether we fully acknowledge that the Arctic, the Himalayas and Antarctica are irrevocably woven together in their impact on the future of our planet.

That is the new reality in the global debate.

In the summer of 2011 I hosted together with the University of Iceland, a meeting of the Third Pole Environment Workshop, attended by numerous scientists from across the Himalayan region as well as from Europe and the United States. The Third Pole Workshop, so named to remind us of the three predominant ice covered areas of the world – the Arctic, Antarctica and the Himalayas – constitutes a new cooperative venture, led by Dr. Yao Tandong of the Institute of Tibetan Plateau Research in Beijing, Dr. Lonnie Thompson of The Ohio State University and Dr. Volker Mosbrugger of the Senckenberg Institute in Frankfurt.

After discussing for a few days the retreat of the Himalayan glaciers, and the consequences for water systems, soil and vegetation, the scientists made a field trip to the largest Icelandic glacier Vatnajökull, observing how it is possible to gain insights into what is happening in the Himalayas by doing research on Icelandic glaciers.

The Iceland-Himalaya dimension can also throw light on the interaction between glaciers and vegetation, between people and the ice, on the fate of communities.

Following the Third Pole meeting, the participants remained in Iceland and joined the Open Assembly of the Northern Research Forum, an association of scholars, scientists, policy-makers and political and community leaders from the eight Arctic countries; a venue I helped to establish thirteen years ago. When the Third Pole experts came to this Northern assembly it was in fact the first time in history that the scientific and research communities of the Himalayas and the Arctic joined hands in such a way.

Within a few weeks the next Third Pole Forum will take place in Dehradun in India, bringing together a similar gathering of Himalayan and international experts, celebrating for the first time within India the potential of a Chinese-Indian cooperation in glacial research, strengthened by the participation of distinguished scientists from Europe and the United States. And, in the middle of October this year, a new

Arctic forum will be inaugurated in Reykjavík as an ongoing annual gathering of all concerned with Arctic issues, also hosting hopefully strong Himalayan delegations.

Leaders in many Asian countries are increasingly aware of how the melting of the ice will determine the fate of their people, causing profound changes in the ecology of their regions, affecting atmospheric circulation, agriculture and hydropower.

Glacial melting contributes up to 45% of the total river flow in the tributaries of the Indus, Ganges and Brahmaputra. Water from these three rivers is crucial for the food security of 500 million people; they are the life-lines of some of Asia's most densely populated areas, from the arid plains of Pakistan to the thirsty metropolises of Northern China 3,000 miles away. Around two billion people in more than a dozen countries – nearly a third of the world's population – depend in one way or another on rivers fed, at least partly, by the snow and the ice of the Himalaya region.

It is impossible to predict with any degree of accuracy when the glacier retreat will translate into a sharp drop in runoff. This will depend on local conditions, but the collateral damage across the region will be devastating, causing acute water and electricity shortages, diminishing food production and, in the face of ecological challenges, widespread migration and possible conflicts between the main Asian powers.

These are some of the reasons why China, and also India, are now putting funds and enhanced scientific resources into monitoring their ice-dependent world; why Nepal and Bhutan are profoundly concerned.

We in Europe should similarly become increasingly aware of how the melting of the glaciers in our global neighbourhood, especially in Greenland and the wider Arctic, also affects weather patterns and our own economic future.

The Greenland glaciers continue to melt faster than ever and the Arctic sea ice has never been thinner. Although the American Aeronautics and Space Administration continues to issue extreme warnings we are still confronted with the paradox that the political and corporate leadership of most countries honour and respect NASA for landing a man on the Moon and sending a robot to Mars but ignoring it altogether when it gives us alarming news about Mother Earth?

This situation highlights that the core problem regarding climate change is one of perception: the absence of a comprehensive and

compelling vision. While we see the Moon and Mars as a whole, we have always had a fragmented view of our own planet.

We have culturally, historically and politically, in all nations, been brought up with a view of Mother Earth in which the ice is peripheral. We have not acknowledged that in fact we all live in an ice-dependent world.

Our weather, our climate, our crops, our cities are dependent, in one way or another, on what happens to the ice. The glaciers are not divorced from our fate; they are at the core of our future.

The Arctic, the Himalayas and Antarctica are not isolated and separate parts of our global homeland. Their fate and our fate, their future and our future, are closely connected.

Unless we bring them together and to the centre of our joint scientific and political concerns, the discussions and the dialogues on climate change will probably continue to be of little consequence.

But when we succeed in linking the Arctic, the Himalayas and Antarctica and all the other ice-covered areas of the Earth together, making them central to our vision, we will achieve what I light-heartedly have called our global 'AHA' moment.

We are all familiar with numerous 'aha' moments in our lives and have witnessed others in similar situations; when suddenly we comprehend a new truth, understand a new reality, recognize the meaning of the other fellow's actions. Yes, aha! – we have finally got it!

The global dialogue on climate change urgently needs such an 'aha' moment and I strongly believe from recent experience that by linking together our concerns and our efforts on the Arctic, the Himalayas and Antarctica we, the people on Mother Earth, have a new opportunity to bring forward the necessary actions.