

# Opening Session: North Meets North



# Opening Address

Ólafur Ragnar Grímsson  
President of Iceland

The opening of the first Northern Research Forum marks a wide-ranging recognition of both the changes taking place in the northern regions of the world and the need to bring scholars and policymakers together in order to further an extensive and scientifically based understanding of the tasks facing the people of the North.

I am deeply grateful to the University of Akureyri and the University of Lapland for their endorsement of the proposal I described in Rovaniemi in the autumn of 1998. I also thank the members of the organizing committee, which was established in 1999, for their leadership and persistence.

My vision was to bring into being what I called a village square where scholars and students, researchers and policymakers would come together and discuss the transformation of the North, its historical legacy and the structural innovations affecting governments and regional co-operation, and to analyse the economic and social changes, the environmental conditions and the forces affecting the security, livelihood, culture and prosperity of the Northern communities. When the North now meets the North here in Akureyri this village square has become a reality, a forum for dialogue among those who value the importance of the North and understand its uniqueness, complexities and interdependence.

The division of the world along the axes of East-West and North-South has for a long time dominated academic research and political, economic and strategic thinking. The impact of these divisions was often to enhance conflict and underline tensions.

By emphasizing the North-to-North relationship we are not only establishing a new global vision but also seeking ways to enhance co-operation and mutual understanding. We are brought together by our joint interests in the North and our common determination to give Northern issues and concerns, problems and challenges, a higher and more sustained priority in the future.

The enthusiasm with which the proposal for a Northern Research Forum was greeted, and the participation in the first Forum by representatives and scholars from the United States, Canada, the Nordic countries, Russia and other states shows that the time had come to establish a permanent network for these new and much-needed discussions. The support given by the University of the Arctic and other academic and research institutions in the Northern regions, and the financial assistance provided by governments, and organizations such as the Ford Foundation and the Carnegie Corporation, demonstrate a profound understanding of the nature of the new challenges facing people in the North and their importance for the rest of the world.

In the final decade of the 20<sup>th</sup> century, the forces of change fundamentally altered the academic and political map of the world and, consequently, the North achieved greater importance than ever before. Up to that time there was very little interest in the course of events in the Northern regions which were considered to be a part of the world where the status quo reigned. The deep frost of the Cold War somehow harmonised with the colder climate of the north, and the end result was as uneventful as the never-ending wilderness of snow and ice where monotonous whiteness covered everything in all directions to the horizon.

The Summit Meeting of President Reagan and Secretary General Gorbachev in Höfði House in Reykjavík in the autumn of 1986 began the transformation of the entire world, heralding the dawn of the new times which replaced the darkness of the Cold War. Now the North is experiencing vibrant changes. Just as the arrival of spring breaks the ice covering the lakes and rivers, suddenly there is movement everywhere, and the newly released streams move forward with force and vigour.

New states and regional organisations have been created. There now exists, for the first time in history, an interlocked network of organisations embracing the entire area from Russia across the Baltic States and the Barents Sea through the Nordic countries, over the Atlantic Ocean and Greenland into Canada and the United States of America.

Three regional organisations - the Baltic Council, the Barents Region Council and the Arctic Council - all of them created in the last decade and all gaining relevance and scope with each year that passes, are a clear demonstration of this political transformation; they are not only bringing into being new states and new territorial bodies within states, but are also creating, for the first time, exclusive forums for co-operation between the Northern European states, Canada and the two most important states of the twentieth century, the United States of America and Russia.

Although the Baltic, Barents and Arctic Councils are all different in composition and purpose, together

they constitute a new structural reality. They show how the end of the Cold War has fundamentally changed the political and economic landscape in the North and brought our regions into key positions, influencing strongly the success of the new Europe and the stability of the Russian-American relationship.

The federal structures of Russia, Canada and the United States have furthermore brought regional, provincial and state governments into significant co-operation with the smaller nation states in the North, with the result that an interesting form of regional and nation state co-operation in economic, social and political affairs is now being created. New entities have entered the framework of co-operation in the Northern Regions. In many ways, the area can be seen as a kind of laboratory situation, demonstrating how the old nation states, and the regional, provincial and state governments within the federal structures, can evolve intensive forms of international co-operation in the 21<sup>st</sup> century, thus transforming the traditional model of diplomatic exchange.

These structural innovations are further enhanced by the growing independence of both the Faroe Islands and Greenland which, although formally parts of the Danish state, are, increasingly, taking more power into their own hands and dealing independently with their neighbouring countries such as Iceland and Canada. It will also be interesting to witness how Scotland, which for the first time in more than three hundred years has its own parliament and its own regional government, will develop its relations with neighbouring countries and regions in Northern Europe and Canada.

The foreign policies of the USA, Canada, Russia and the European Union have, in recent times, acknowledged these new realities in the Northern regions and their importance for the evolution of Europe and the Atlantic relationship in the 21<sup>st</sup> century. Thus the European Union has formally accepted the so-called „Northern Dimension“ as a pillar in its policy framework for the 21<sup>st</sup> century; Canada has decided on a new northern policy; and the US State Department has sought active participation in the new regional

councils, with Deputy Secretary Strobe Talbot, in particular, being very active in this area. Similarly, the Russian Foreign Ministry has paid increasing attention to these regional institutions and has emphasised the need for successful solutions to fishing disputes with neighbouring countries. Whereas the Northern regions ranked fairly low on the priority scale of the USA, Russia and the European Union some years ago, we have, in recent years, witnessed a significant change which indicates a new set of priorities for the 21<sup>st</sup> century.

These new challenges call for active co-operation, most especially for preserving the environment and preventing climatic change and nuclear catastrophes. The Arctic area, the Barents Sea region, Northern Europe, Greenland and Northern Canada have great significance for the entire global environmental system in regard to further climatic change. The engine that drives the world's network of ocean currents, and thus the foundation for the global weather system, lies around Iceland, created by the combination of warm ocean water generated by the Gulf Stream and the cold ocean water created by the melting of the Arctic and Northern icecaps. Excessive melting of the ice could upset the balance, possibly even stopping the mechanism that drives the ocean currents, with the result that the entire global weather system would suffer disastrous effects.

In addition, the environmental security of the Northern regions is threatened by the presence of vast nuclear arsenals, submarines and military systems, especially in the north-western part of Russia, some of which are in very bad shape as far as safety is concerned. Sustained international co-operation is therefore needed in order to contain the risk created by these weapon systems and nuclear installations and thus to prevent global disaster.

Furthermore, the biological systems in the North - the vegetation and the fishing stocks - are important global resources, and without intensive co-operation there is a significant danger of their extinction.

When all these developments are taken together, they demonstrate how the end of the Cold War has dra-

matically transformed the political and economic landscape of the North, provided it with new significance which will influence strongly the success and stability of the new Europe and the Russian-American relationship.

Let me note some areas which urgently need more research and deeper understanding, areas where new questions need to be asked and new concepts and referential frameworks need to be formulated so that our actions and decisions, views and conclusions can be directed by knowledge and wisdom.

First, there is the political innovation - we could even say the political creation - which in the last ten years has dominated the evolution of the North. New states have gained independence; increased rights have been given to local and regional institutions. The decision-making structures are in a continuous flux and the classical question - Who governs, where and how? - now requires new answers, bringing into focus the central importance of democratic accountability in the modern world. We could even say that the North has become a working laboratory of new political institutions and relationships: local, regional, national and global.

Second, the relationship between environmental protection and sustainable economic growth is a crucial element in the successful development of the North. How we treat this relationship is not only of fundamental importance to ourselves but will also greatly affect the global environmental situation.

It is, for example, a sad reflection on the direction of modern scientific research that at present we lack international programmes focusing on the development of climatic models that would yield reliable predictions for future changes in the climate of the Arctic. Our regions harbour some of the most sensitive biosystems in the world: plant and animal species totter on the edge of extinction, our oceans and seas are home to important fishing stocks which could be threatened by our failure to reach agreements on the management of these critical ocean resources.

Third, we have the transformation of security structures and security arrangements following the end of the Cold War and the disintegration of the Soviet Union. Here there is a tendency to hide the new reality by clinging to old conceptual frameworks. Scholars and researchers should explore how these developments have changed the security concept, the notion of alliance and non-alliance; how new forms of security co-operation have affected the thinking, training and culture of the armed forces; and the degree to which traditional security studies impede our understanding of these new realities.

Fourth, economic growth and income distribution in the North are issues of critical importance which will influence the growth of successful and stable political co-operation between central and regional institutions. It is indeed an interesting question whether the model for balanced economic growth should be the integrated, centrally-directed European Union model or a more decentralised model in which respective states and regions operate as independent actors in global markets.

Each of these four areas would be a sufficient challenge in itself. Taken together, they constitute a transformation of the questions facing the universities and research institutions in the North.

We need an inter-connected network of sustained co-operation and dialogue among the entire community of scholars of the North and extending to those specialists from other parts of the world who are interested in sharing in our explorations.

Reflecting on how to create such an integrated community of northern scholars dealing with projects and problems related to the future of our countries and regions - an academic network which year by year would deepen and extend our understanding and provide northern institutions with sound substance for the democratic decision-making process - I proposed in the opening lecture which I gave in 1998 on the 20<sup>th</sup> anniversary of the University of Lapland, the creation of an annual or biannual forum which would bring together in a systematic way the wealth of academic talent now existing in the North.

Such a forum would, I thought, provide regular opportunities for publicizing research and holding workshops on significant problems, enabling young researchers and scholars to present their findings to audiences of distinguished and learned experts. It would also further co-operation between scholars from different parts of the North and integrate new institutions of learning and research into the world of the more established universities.

The Northern Research Forum which now assembles for the first time is the realisation of these ideas, and I salute all who had the vision and the will to make it possible.

In a certain way it is appropriate that such a new exploration of the North should begin in the year 2000 when we are celebrating the 1000<sup>th</sup> anniversary of the Northern voyages which led the Icelandic and Nordic seafarers to the great continent in the West.

The Vikings were the greatest explorers of their times. With the North as their home, they were determined to reach into the unknown, to cross dangerous oceans and enter strange lands. They were certainly the most travelled people of their times, going deep into Russia, all the way down to the Ukraine, exploring the Baltic and the entire Scandinavian peninsula, moving over the European continent and along the Atlantic coast as far as the Mediterranean and Africa, and of course moving from Iceland to Greenland and further on to the place they called Vinland.

Five hundred years before the explorers from continental Europe found America, the seafarers of the North had discovered that great continent; and in the case of the remarkable Icelandic woman Guðríður Þorbjarnardóttir, arguably the greatest female explorer of all times, they travelled all the way to Rome to report these findings to the Vatican.

The people who lived in the North a thousand years ago, our forefathers and foremothers, were indeed among the greatest standard-bearers of discovery and exploration in the history of the world. In their journeys, their poems and sagas, deliberations and visions they brought the North together, making the

regions ranging from Russia across the Nordic countries, the Atlantic and into North America their common home. Their legacy is our heritage: a reminder of the great tradition of exploration, discovery and interdependence which the North has inherited and, which now, for the first time in the modern era, can become the foundation for productive co-operation and progress.

The discussions and deliberations in the Northern Research Forum will thus not only be moulded by

academic research, advanced policymaking and the tools of the information revolution; they will be rooted as well in the culture which a thousand years ago made the North the centre of exploration and discovery. We should be inspired to take advantage of the great opportunities provided by North-North co-operation and not allow ourselves to be distracted by the East-West or North-South perspectives. This new cooperative effort can be at the same time highly modern and steeped in a deeply rooted culture.

## Use of Living Marine Resources in Greenland

Amalie Jessen

Use of living marine resources, both fish and marine mammal resources, is of great importance to most countries in the North. It is clear, however, that the utilization of marine mammals is being viewed critically by some of the Nordic countries.

We have seen negotiations in regard to the context of a „Sustainable North“, where an agreement will be signed in the near future. This, however, will be done without full agreement between the Nordic countries on the whaling issue, showing that it is not only within the International Whaling Commission that discussions are deadlocked on whaling issues.

Whaling and sealing in Greenland are part of a traditional pattern of marine resource utilization extending back at least 4,000 years. For generations, Inuit hunters used skinboats, kayaks, and handthrown harpoons to catch bowhead (Greenland right), humpback, and other whales. In the late 1940s, Greenlanders began community-based whaling by installing Norwegian-made harpoon cannons on fishing vessels; whalers took minke, fin, humpback and other whales, sharing them with their extended families. Today, the utilization of whale resources has been somewhat modernized, or harmonised to the modern way of life: you have to plan your fishery-activities to conform with the wishes of the modern housewife.

Greenland is therefore very proud of being part of the North Atlantic Marine Mammal Commission.

NAMMCO - the North Atlantic Marine Mammal Commission - is an international body for cooperation in the conservation, management and study of marine mammals in the North Atlantic. The NAMMCO Agreement, which was signed in Nuuk, Greenland on the 9<sup>th</sup> of April, 1992 by Norway, Iceland, Greenland and the Faroe Islands, focuses on modern approaches to the study of the marine ecosystem as a whole, and on understanding better the role of marine mammals in this system. NAMMCO provides a mechanism for cooperation in the conservation and management of all species of cetaceans (whales and dolphins) and pinnipeds (seals and walrus) in the region, many of which have not before been covered by international agreement.

The main elements of the Commission are:

The **Council**, the decisionmaking body of the Commission, which meets on an annual basis to review the advice provided by the Scientific Committee, and to coordinate recommendations for further scientific research;

the **Management Committees**, which make proposals for conservation and management, and recom-

mendations for scientific research with respect to stocks of marine mammals within their mandate;

and the **Scientific Committee**, which provides scientific advice in response to requests from the Council, utilising, to the extent possible, existing scientific information.

NAMMCO also provides a forum for the exchange of information among member countries on other matters related to marine mammal conservation and management, such as hunting methods and environmental questions. NAMMCO has implemented the Joint Control Scheme for the Hunting of Marine Mammals, which includes international observation of sealing and whaling activities in NAMMCO member countries.

Through regional cooperation, the member countries of NAMMCO aim to strengthen and further develop effective conservation and management measures for marine mammals. Such measures must be based on the best available scientific evidence, and should take into account not only the complexity and the vulner-

ability of the marine ecosystem, but also the rights and needs of coastal communities to make a sustainable living from what the sea can provide.

It is therefore gratifying to me as the NAMMCO chair, that our organisation was recently given permanent observer status in the Arctic Council. NAMMCO has, since the establishment of Arctic Council, requested permanent observer status. This request, however, was not approved by one of the member countries, the USA, which did not want marine mammal issues put on the agenda within the Arctic Council.

How can an important and serious Arctic body, like the Arctic Council, fail to deal with marine mammals? Marine mammals are part of our life and always will be. Where is the transparency that is so important in other bodies that deal with marine mammals?

It is therefore my sincere appeal to the first Northern Research Forum, that in North Meets North, we have a frank and open discussion. Qujanaq.

## Promoting Science Advice in Policy Making and the Relationship to Northern Issues

Peter G. Johnson

One of the overarching themes of the Forum is the question of the provision of science advice in the decision making processes of governments. The Forum was structured to bring together scientists, bureaucrats, and representatives of the private sector to discuss why science is important, rather than the specifics of scientific findings. It was also designed to bring young scholars into conversation with established scholars.

In this presentation I will be illustrating a mechanism which has been developed in Canada to promote the use of science advice in decision making at the national level. As a preamble it must be pointed out that Northern science and technology is a small part of the science agenda of most federal departments in Canada and has been affected, perhaps more than other science sectors, in government restraint over the last decade. Science Advisory Boards within most departments do not have strong northern representation or expertise, and it is difficult, therefore, to maintain a consistent message about the importance of investment in northern issues.

It must be pointed out that Northern Governments, Northern Institutes, and Land Claims Organizations in particular have developed extensive research agendas, and a large body of research and monitoring is carried out. National investment is however required to address "Big Science", the issues which

have regional and global implications, and strong northern voices are required within science and policy advice structures.

I have recently been appointed to the Council of Science and Technology Advisors (CSTA) in Canada. CSTA was established in April of 1998 with a mandate to provide external expert advice on Science and Technology issues to the Cabinet of the Federal Government of Canada. The formation of the Council arose from a detailed report "Science and Technology for the New Century" released by the government in 1996, and was seen as part of the development of a science and technology strategy.

In Canada, each science-based federal government department has a Science Advisory Board which is composed of members from academia, the private sector, non-government organizations, and Indigenous Peoples. All the members are external to government, although many are involved in research partnerships with government personnel. The structure of these is different in each department but they are all charged with providing advice to their Ministers. CSTA brings representatives of these science advisory boards together under the Chair of the Secretary of State for Science, Research and Development.

Upon its formation the Council was asked by the

Cabinet to undertake two initial tasks: to develop a set of principles and guidelines for the use of scientific advice in government decision making; and to examine the roles of the federal government in the performance of science and technology and its ability to fulfill these roles.

The issue of the provision and use of science advice had become a major concern in Canada as a result of a number of high-profile cases. Predictions on dwindling fish stocks and the setting of quotas for catches, concerns over tainted blood, environmental assessments for new mines, and problems with respect to cleanup of old mining sites are among the issues which have put pressure on government science. As a result of its deliberations and consultations, the CSTA issued a report "Science Advice for Government Effectiveness. (SAGE)" (1999) which was submitted to the Cabinet. Government departments then went through an extensive review process and published "A Framework for Science and Technology Advice: Principles and Guidelines for the Effective Use of Science and Technology Advice in Government Decision Making" which was adopted by the Cabinet in April 2000. The Framework provides six science advice principles.

<i>Principle</i>	<i>Action</i>
Early Issue Identification	Anticipate issues requiring science advice.
Inclusiveness	Draw on variety of scientific sources and experts.
Sound Science	Due diligence for quality, integrity and reliability.
Uncertainty and Risk	Assessment, management, and communication.
Transparency and Openness	Consult and communicate with stakeholders and the public.
Review	Scientific advances impacting decision.

The second task charged to the CSTA was to address the fundamental question as to the roles of government in performing science and technology, and whether government had the capacity to deliver science in those roles. In March 2000, "Building Excellence in Science and Technology: The Federal Roles in Performing Science and Technology" (BEST)

was released. CSTA concluded that there are valid, but focused, roles for the federal government in performing science and technology. These were to engender public confidence and enable economic and social development; but even so, this could only be justified where the knowledge cannot be obtained from other sources.

Following these initial studies, the Cabinet has charged the CSTA to examine the characteristics of science and technology excellence and the appropriate mechanisms for measuring and ensuring excellence in government science and technology such that the government remains a credible contributor to the national innovation system.

CSTA has learned to date

- The importance of an explicit set of science advice principles and guidelines
- Government's role as a performer of science and technology is more focused
- There is an increasing need for a horizontal advisory body

Finally, let me return from the general issue of science advice at the national level to concerns about a strong regional voice in the process. We have not as yet fully addressed this question but there is more and more a realization that a special regional consideration for Arctic science and technology is critical to our role in the circumpolar north and globally, and that this role must be addressed in full partnership with our northern communities and indigenous people. 'North meets South' and 'South recognizes North' are just as important as 'North meets North'.

## References

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## North Meets North

Sergey Kharuchi

Thanks to the NRF's work in development, steps are being taken to help preserve the Arctic for ourselves and our children. I believe that the NRF is an important first step on the way to developing northern cooperative processes. The northern region is immense in size and complexity, especially with respect to economies and politics. The various areas of the Arctic require special attention and should be studied in great detail in order to give the generations to come a proper chance. Today there is a chance that the participants of the NRF will make important contributions to the sustainable development of the Arctic regions. I am sure that our mutual work will lead to important dialogues across northern communities, and to help solve the problems that face northern peoples.

About six years ago, in June of 1995, there was a scientific conference in Russia that concerned the issues of human resources in the north. There were many speeches concerning world development of the Arctic region, and as a member of this conference, I was deeply concerned about the situation of the circumpolar north. Although the speeches at the conference were all sincere and comprehensive, it became clear to me at that time that there was no way to solve the problems of the north solely at the national level. In my speech at that conference, I suggested that there should be a unified, single database for solving problems of the north. I also suggested

that this database be constructed with the assistance of representatives from indigenous groups. The north is, and will continue to be, used by all governments to enhance economic stability, but it should be done in accordance with northern peoples.

More than six years have since passed, and during that time the governments of northern countries have combined their efforts in the direction of cooperation. The Standing Committee of Parliamentarians of the Arctic region was created, and both the Barents Agreement and NRF have been working successfully as well. Fortunately, aboriginal peoples have made important contributions to these organizations. Although much important work has been done, in many cases, situations have not changed. The continued destruction of the natural environment in the north has led to a decline in the health of both indigenous and non-indigenous people. Age expectancies have been falling as death rates increase. Much research in the Russian north has been carried out, but the same medical maladies remain. Cancer and tuberculosis are especially represented among the indigenous people. Such circumstances cannot be tolerated for reasons of humanity, economy, as well as ecology.

I would like to believe that the NRF will be a turning point in our common work in the north, with collective research that includes not just facts but practical

advice as well. The Yamal-Nenetsky Autonomous Region, as an integral part of the northern community, has done a lot to help solve our problems of the north. The state parliament has passed laws concerning issues of ecology, health and the proper use of natural resources in the area. Our region, being one of the most powerful subjects in the Russian Federation, has contributed much to the sustainable development of the north. In the first place, the Autonomous District is critical in determining environmental problems of the area as well as in monitoring the Northern Sea Route. But additionally, the district has ample intellectual resources, with the recent creation of several new scientific institutions devoted to the study of northern problems. We now have the possibility to create an economic base which would make the Yamal-Nenetsky Autonomous Region a major research center focusing on problems that face the circumpolar world. The Region and its

governor are ready to work together with all of those who are ready to solve the scientific and practical issues of the north.

I believe the research community of the NRF has enough courage to take such a step for the sake of the people living in the north. Everything I have said today has been discussed by the parliament of the Yamal-Nenetsky Autonomous Region and my suggestions of continued action on behalf of northern peoples were unanimously supported. These issues now constitute the core of legislative work taking place in the Region. I am grateful for my colleagues in the NRF, and I hope we will all be able to work together. In fine, working on northern issues on behalf of northern peoples has been one of the most important goals of the Russian Association of Indigenous People (RAIPON), which received a United Nations award for its achievements in 1995.

# Keynote Address

## The University of the Arctic: a Flexible Cooperation Structure for Research and Higher Education

Asgeir Brekke  
and  
Richard Langlais

On behalf of the Interim Council of the University of the Arctic we have the honour of congratulating President Grimsson on his initiative and success in establishing the Northern Research Forum. In the (then Interim) Council of the University of the Arctic, we were first informed about the plans to form a Northern Research Forum by Dr. Lassi Heininen, its chairman, when he presented it to us during our meeting in Akureyri, Iceland, in the spring of 1999. It is with admiration that we have followed the process since that time, and seen how effectively and smoothly the Forum has become a reality. We especially admire how swiftly you have been able to obtain a solid financial foundation for the Forum.

We in the University of the Arctic feel that we have acted almost as a mentor, or even midwife, for the Northern Research Forum and we are looking forward to a close cooperation with it in the future. From the historical perspective, it is fair to say that the way in which the Northern Research Forum's secretariat was established can serve as a good example of deliberate cooperation, pursued in a generous spirit. When the University of Lapland produced the feasibility study for the NRF, it suggested that the secretariat did not have to be at the University of Lapland, and invited some other institution to take the honour. Although the short-term gain of keeping the secretariat for itself was tempting, the University of Lapland understood that the greater interests of

the University of the Arctic and the Northern Research Forum itself would be better served in the long run if someone else took the secretariat responsibility, especially if that someone was located in Iceland. When our Icelandic friends were presented with that opportunity, they accepted it eagerly and enthusiastically, and with the results that we see today. This is indeed a good example of how the cooperation involved in building the University of the Arctic can establish new patterns that transcend older forms of competitiveness. This gives us much optimism for the future.

For a long time in the Arctic, we have been thinking in the meridional directions, that is to say, from north to south, and vice versa. Almost all collaborative actions between the countries in the Arctic have had to go through the capitals; at least, that is the way we have felt in Scandinavia. Communications and transportation have for a long time been aligned north-south, and it has often been easier to work between the regions in the North when living in the capitals, than when actually living within the regions themselves. The end of the Cold War changed this situation dramatically, and the whole Arctic was opened up for collaboration and cultural exchange across national borders. Old trading routes could be reopened, such as the one that used to flourish between the Kola Peninsula and northern Norway, Finland and Sweden. The development of the elec-

tronic communication network has accelerated this east-west communication enormously, and today there is almost no limit upon communication via e-mail and electronic networks such as the World Wide Web. Nowadays, we may also wonder what happened to the famous air routes over the North Pole, which were established with such confidence and efficiency several decades ago, but which today have disappeared. We note with interest that there are growing discussions about reopening many of these routes.

In this new situation, the Arctic is open to us all, with all its attractiveness and all its problems. We might, however, wonder why we are suddenly so much more focused on the Arctic and Arctic matters, as the Arctic has always been there and the people living there have always managed to cope with its special challenges. Until recently, however, the Arctic has been an innocent part of the world, where people have depended to a greater extent on the premises of Nature than people in other parts of the globe. Today this has changed; we know that pollution is brought to the Arctic through the air as well as through the sea from the heavily industrialised regions in the south. The modern technologies for extracting resources like oil and minerals have made it possible to investigate and exploit the rather harsh climatic regions of the Arctic. We are facing an enormous challenge in this respect and it is extremely important to mobilise all available forces to tackle this challenge in such a way that the environment is preserved for future generations. Once again, creative research initiatives and academic responses are urgently called for.

In the University of the Arctic we want to achieve a symbiosis of traditional knowledge, inherited through many generations among indigenous people living in the Arctic, and the modern technology developed in the more urban and densely populated areas. It is immensely important to rescue this local know-how, which has been communicated from generation to generation among those who have lived in harmony with the environment, and to bring it to those of us who are going to approach the wealth of the Arctic with new technology but little understand-

ing for the consequences of this exploitation. Living in the modern Arctic demands technological solutions; and we know that the peoples of the Arctic have always been skilful masters of ingenious technology. Again, collaborations between industry and research could be increased in order to assist the communities who want to develop their resources for external markets, but in a sustainable fashion.

Today, we have come to realise that the Arctic environment acts almost like the canaries that miners on Svalbard brought with them to the mines in the old days in order to test the content of poisonous gas in the shafts. The Arctic air, ocean and biomass are probably the first to react to an unhealthy global environment. For example, we have seen worrying signals that polar bears are unhealthy and that the Arctic ice cover is getting thinner. This will, first of all, have an important impact on the people living in the Arctic, but it is also important for people outside the Arctic to understand that the consequences of this are to be seen not only within the Arctic itself but also outside, in the rest of the world. There is a need for higher education in the Arctic that takes advantage of the new possibilities, but is also sensitive to the consequences of global change.

The Arctic Region, with its unique qualities and diversified cultures, is under threat from commercial interests having mixed motives for exploring the resources in the Arctic. The pollution caused by activities outside the region is another menace that can lead to unforeseen destruction of the quality of life in the Arctic. In this regard, an important goal for the future of the Arctic is to educate the teachers, who will need to have a broad understanding and knowledge of the qualities of the region. Only then will it be possible to teach coming generations and give them an attitude of affection for the region. It is necessary to teach the young how to live with nature, how to care for it and to contribute to the unique cultures of people living in the Arctic, if we want to preserve this region. In order to achieve this, the teachers have to get the necessary knowledge of causes and effects in the processes taking place in the region. New kinds of teacher education would be appropriate for the University of the Arctic.

Unfortunately, the possibilities for obtaining academic degrees inside the Arctic region are very limited, due to there being few universities that offer complete curricula in their faculties. There are, however, many colleges in the region that offer a limited number of courses, but which, when acting together or in cooperation with a university, could offer curricula that would satisfy the requirements of academic degrees. This is the arena for the University of the Arctic, a virtual university without walls that encourages cooperation across borders, and between colleges and universities.

„Shared voices“ is the motto for this enterprise, encouraging stakeholders with different backgrounds and qualifications to contribute their expertise and know-how. The University of the Arctic will obviously offer courses on the Internet, but that will not be the only element of this enterprise. The exchange of students as well as teachers between colleges and universities is another essential component. Sustaining these kinds of exchanges is probably the most important factor for success, as it will increase the exchange of culture and enhance understanding between the different people in the Arctic. Institutions with special course offerings are another way of gathering teachers and students from different parts of the world to concentrate on a common curriculum.

So far, the University of the Arctic is involved in developing a suite of programs and courses. Much of this has been organized in the following way:

- the **Bachelor of Circumpolar Studies, the BCS**, is about providing new, regionally-relevant education and training to the University's primary client group: northerners whose access to higher education is limited, or non-existent, because of where they live, the language they speak, or the money they don't have. The BCS is also about moving northern content from the edge of the academy's curriculum to its centre.
- **Arctic Learning Environments, or ALE**, is about using tested and affordable information technologies to move informatio - for example the content

of programs like BCS - to and from students separated by large distances. Programs that could previously only be dreamed of, because of small student numbers and the costs of bringing them together in traditional classrooms are now within reach. ALE is about increasing the understanding of the circumpolar world, not just within the region but also around the world.

- the **Circumpolar Mobility Program (CMP)** is about moving people - students and faculty - rather than information. It naturally complements the Arctic Learning Environment in supporting the Bachelor program. The Circumpolar Mobility Program is about making northerners feel at home in the new learning community of the University of the Arctic.

An example of such an institution, but on a much smaller scale, is UNIS, University Studies in Svalbard. This is a modern facility located on Svalbard that has been established by the four Norwegian Universities, as the result of many years of negotiations to find a way to collaborate on higher education in Norway's most northerly region. This institution offers courses in Arctic-related biology, geology, geophysics and technology. Each year it attracts students, about a hundred of them each term, from some twenty countries. Part of its rationale is that improved knowledge of the Arctic should not be restricted to the inhabitants of the Arctic. Indeed, the South needs to learn more about the North. By bringing students together for long stays on Svalbard, knowledge of the Arctic is conveyed to the South, beyond the Arctic, through highly educated young people, who return to their home regions and go on to careers in other parts of the world.

There is only a small permanent staff at UNIS; therefore many teachers from research institutions with excellent reputations in the relevant fields of interest are brought in for shorter or longer periods to give concentrated lectures. The students find themselves in an environment of active research among some of the best scientists in their fields. This is an efficient way of organising teaching, since many of the courses would attract only small numbers of students at

most institutions and universities. Collecting the students in one place makes the arrangement more cost-effective, and also stimulating. Within the framework of the University of the Arctic, one can anticipate that other nations will arrange similar institutions, but focusing on other fields relevant for the Arctic, such as international Arctic policy, governance of Arctic resources, Arctic cultural exchange, Northern languages, and so on.

With this and other models and pilot projects before us, the University of the Arctic is entering a phase of rapid evolution. The interim period of the University initiative is now coming to an end after almost 4 years of consultation, negotiation, and planning. We are currently in the process of employing a Director, and in forming a Board of Governors consisting of well-respected persons, who will do much to create a community of international support for the organisation. Additionally, the University of the Arctic will be formed as an independent entity under Finnish law in the Spring of next year, and its coordination office will continue to operate in Rovaniemi, Finland.

This collaboration was celebrated with the official launch of the University of the Arctic in Rovaniemi,

in June of 2001. This was arranged so as to coincide with the first meeting of the Arctic Council under the new Finnish Chair. This in turn coincided with the tenth anniversary of the Rovaniemi Process, which provided the seeds of what eventually led to the creation of the Arctic Council, and, from that, the initiative to create the University of the Arctic.

In summary, and in conclusion, contact with research groups and scientists is indispensable when developing and delivering higher education. For the University of the Arctic, teaching is the issue, but good teaching at this level requires inspiration from science, and from research in the relevant fields. It is therefore with great expectations that we now take part in the inauguration of the Northern Research Forum. We expect that the Northern Research Forum will give us a research community actively engaged in problems relevant to the Arctic. Consequently, we in the University of the Arctic community look very much forward to cooperation with the Northern Research Forum, and we hope that these two institutions will prosper together and encourage each other to reach a common goal, that of securing the future of the Arctic, as an inspiring and pleasant region to live in.