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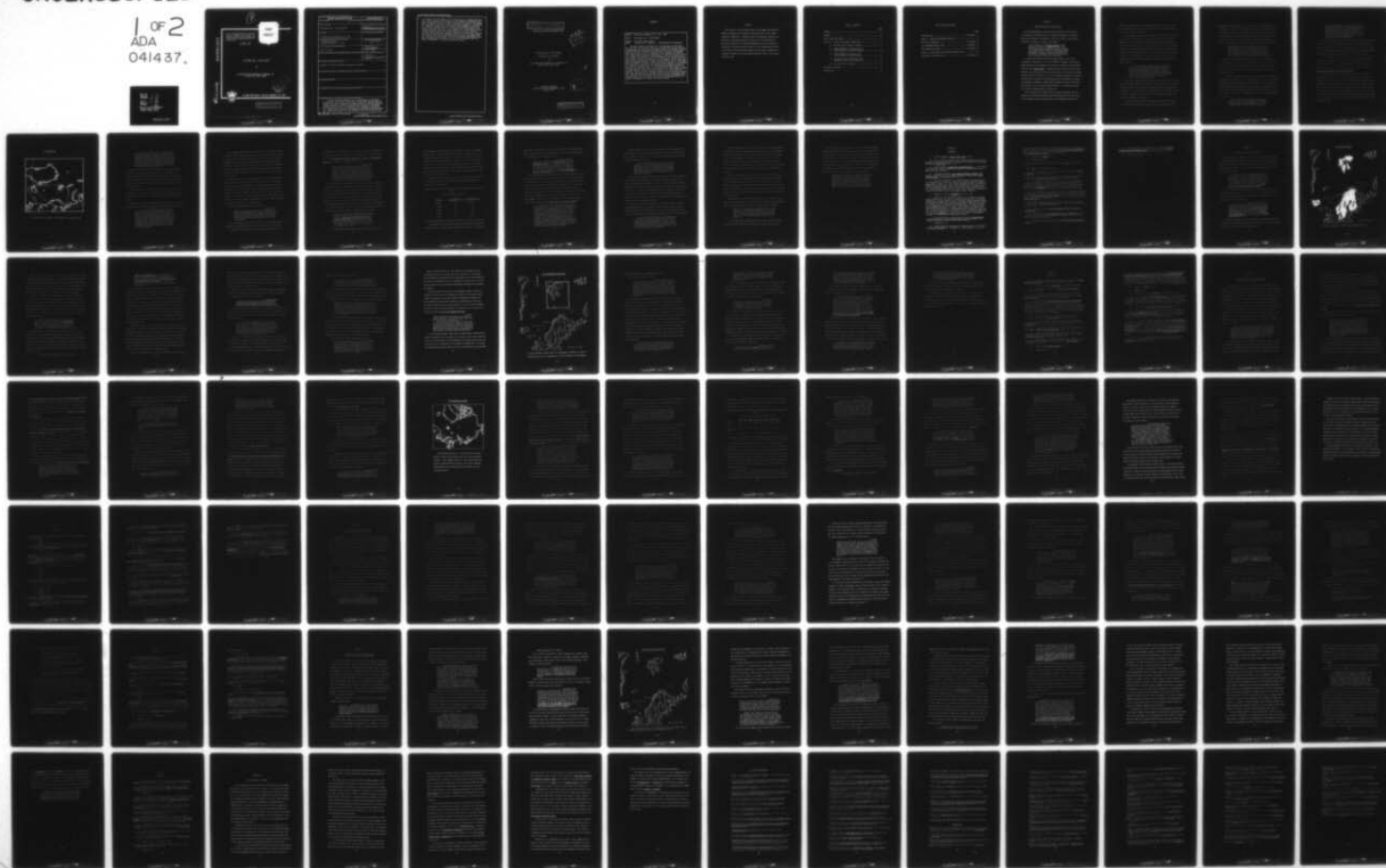
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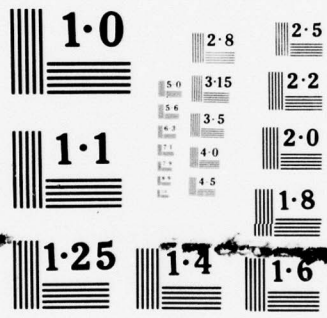
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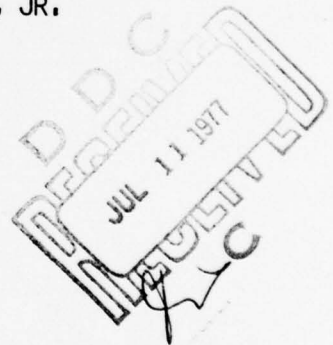
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29 APRIL 1977

THE NORDIC ARC: A VITAL REGION

BY

LIEUTENANT COLONEL BERTRAND A. HANDWORK, JR.
UNITED STATES ARMY RESERVE



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INDIVIDUAL STUDY PROJECT

by

Lieutenant Colonel Bertrand A. Handwork, Jr.
United States Army Reserve

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US Army War College
Carlisle Barracks, Pennsylvania 17013
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ABSTRACT

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The basic problems addressed are: the importance of the Nordic Arc, the role of the Army in that area, and how that role may best be accomplished. Data was gathered through a search of existing literature without recourse to classified publications. Initially, the growing importance of the Arctic is addressed, later focusing on the Nordic Arc - specifically: Iceland, Spitsbergen, the northern portions of Norway, Sweden and Finland, the Kola Peninsula, and all the waters which lie between. The term "Nordic Arc" is believed to be original with this work. Soviet interests are examined with an emphasis on potential economic developments related to energy sources and the use of the growing maritime power of the Soviet Union, both highly dependent on the Nordic Arc. American interests are also examined with emphasis on political and military considerations. It is concluded that conflicting or converging interests could lead to the possibility of armed conflict; that the Army would be required to defend bases in this area, which are needed to effectively and economically employ our air and naval forces; and, that our Army Reserve Component Forces are the only troops which are available for this purpose. The study recommends programing, equipping, training, and exercising specific Reserve Component units for possible deployment to Iceland and Northern Norway.

PREFACE

This study is in part motivated by, and presumably has benefited from, the author's past residence, study and travel in the Nordic countries. Hopefully, it reflects both an intellectual curiosity toward and a very genuine concern for this area. This interest has grown from inception at Stockholms Högskolan (now the University of Stockholm) to fruition through contact with the students and faculty of the United States Army War College. May this paper stimulate the interest of others in an increasingly important region of the world - the Nordic Arc.

TABLE OF CONTENTS

	Page
ABSTRACT	ii
PREFACE	iii
LIST OF MAPS AND TABLES	v
CHAPTER I. FOCUS ON THE NORTH: ULTIMA THULE	1
II. THE NORDIC ARC: SEEDS OF CONFLICT	16
III. SOVIET INTERESTS IN THE NORDIC ARC: THEIR GATEWAY TO ULTIMATE SUPREMACY	28
IV. OUR INTERESTS IN THE NORDIC ARC: ON THE FRONTIER OF WORLD FREEDOM	46
V. THE ROLE OF THE UNITED STATES ARMY: DEFENSE OF BASES IN THE NORDIC ARC	60
VI. THE NORDIC ARC: A SUMMARY	72
SELECTED BIBLIOGRAPHY	77
DISTRIBUTION	84

LIST OF MAPS AND TABLES

	Page
THE NORDIC ARC	following 4
TABLE I - ULTIMATE RECOVERABLE RESERVES	8
THE NORDIC COUNTRIES	following 16
THE SPITSBERGEN TREATY ZONE	following 21
THE NORTHERN SEA ROUTE	following 33
TABLE II - THE GROWTH OF THE SOVIET MERCHANT FLEET	36
KEY BASES IN THE NORDIC ARC	following 62

CHAPTER I

FOCUS ON THE NORTH: ULTIMA THULE

From time immemorial, man has been fascinated by the Far North - it's promises of adventure and it's suspected treasures. He has been drawn ever northward, ultimately to the Arctic itself, as slowly and as surely as the moth is drawn to the flame.

...The flames of the aurora borealis flicker across the heavens in curtains of fire, the moon casts a million diamonds across the snows, and if sometimes in summer the icebergs resemble mountains of copper, in winter they gleam with the sheen of burnished steel, and the mountains form a string of jewels on the horizon.¹

At first, man explored the North simply because it was there - an unknown, a challenge - part of his attempt to expand to the fullest degree possible his knowledge of the world he lived in. The poet Virgil used the term "Ultima Thule" to describe what he thought to be the very farthest limit possible, the most northerly land in the world, to record the epic voyage of Pytheas (c. 300 BC). Pytheas was reputed to have left his home port of Massilia (now Marseilles), sailed through the Straits of Gibraltar, northward to England and Scotland, and then "beyond" for six full days till at last he reached "Thule". It is further recorded that Pytheas returned safely to Massilia.²

In the classic Age of Exploration, intrepid adventurers from the countries of Northwestern Europe probed the mysteries of the Far North in their search for an all-water route to the fabled riches of the

Orient, so vividly and enticingly described by Marco Polo. In doing so, he began to discover the riches of the Arctic itself - the furs, the gold, the wealth of the seas.

In the Nineteenth Century, the growth of nationalism and the resultant intense rivalries led the great powers - and their poorer neighbors - to the Arctic. The explorers were followed by those who would exploit the wealth of the newly-charted seas and the newly-found lands. As these entrepreneurs established themselves in the northern regions, they naturally demanded protection by the naval and military forces of their homelands. In time, the leaders of those nations became concerned with the establishment of bases for their military and naval forces.

In the mid-1860s, Abraham Lincoln's Secretary of State, William H. Seward, proposed the United States should strengthen its defense in regard to Asia and Europe through the purchase of Alaska from Russia and Greenland and Iceland from Denmark. The plan met with ridicule, but in any case it did lead to the American Republic's acquisition of Alaska and the Aleutians....³

In the late Nineteenth and early Twentieth Centuries, the focus of great power attention shifted briefly to the colonization of Africa and the establishment of concessions in China. There were large economic advantages to be gained from such actions and this was, indeed, the Age of economic imperialism. Then, all of the interest and energy of the world was absorbed by World War I.

In the years that followed the Great War, attention returned to the Arctic regions. Technical innovations, whose progress had been

accelerated by the demands of war, made possible new approaches to the Far North. The airship, the airplane, the submarine, the radio - all were pressed into service as new generations took up the challenge of the Arctic. Some of these new explorers predicted the economic potential of Polar regions in glowing terms and urged their homelands to focus attention and effort northward: Northward the Course of Empire!

We have not come to the northward limit of communal progress. There was a pause but no stop to the Westward course of empire until we came to the place where East is West....There is no boundary beyond which productive enterprise cannot go till North meets North on the opposite shores of the Arctic Ocean as East has met West on the Pacific.⁴

Again, war intervened before such dreams could be realized. Yet, it was the impact of World War II that focused our attention on the Arctic more clearly than ever before. There was a need for air and naval bases on the fringes of the Arctic. Seward's dim dream had now become a reality.

We tended to rediscover Alaska and the Aleutians as base areas for the control of the Northern Pacific; Greenland and Iceland as bases for the control of the North Atlantic. The attention of the chief European powers focused on Scandinavia and the other Nordic countries.⁵ This was a Scandinavia which had remained neutral and avoided conflict, for the most part, since the time of Napoleon. It was also a Scandinavia marked for tragedy.

Germany needed the iron ore of Sweden which came out through Narvik and down the protected Norwegian coast. Britain needed to stop that traffic. Germany needed northern bases from

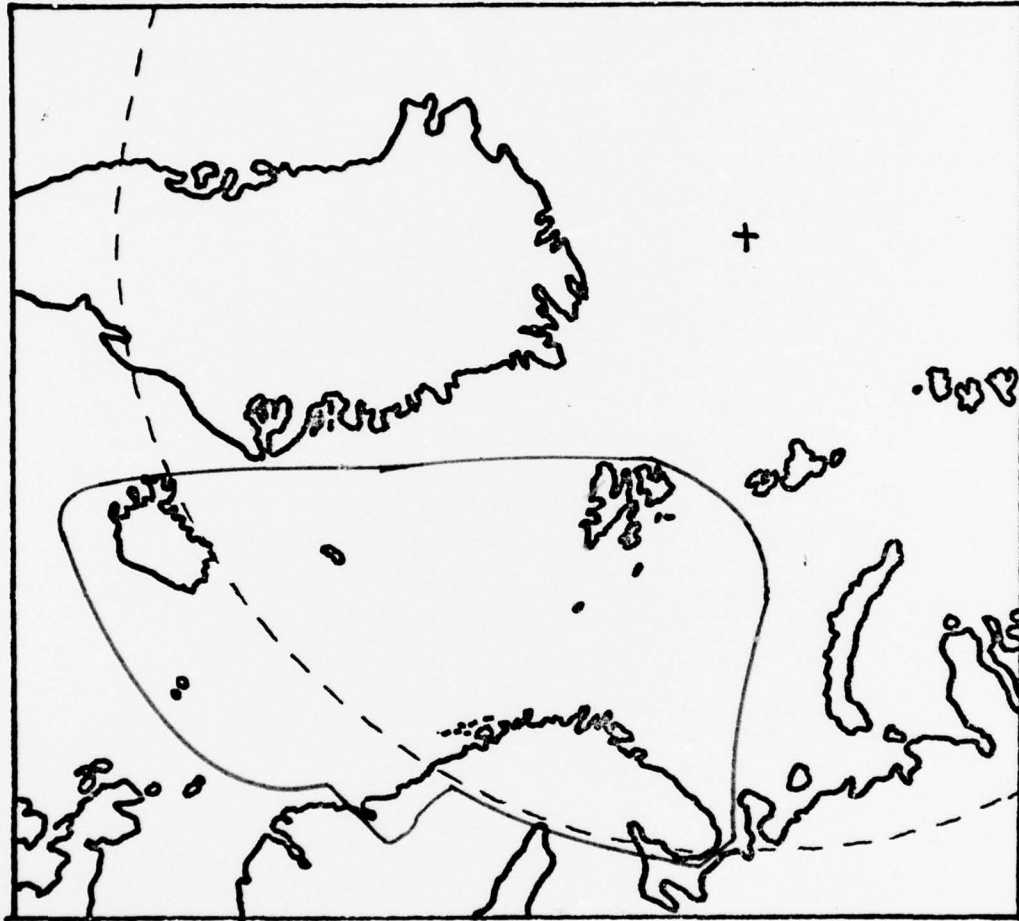
which her submarines might attack British shipping. Britain needed to prevent Germany from getting them. And any of the Scandinavian countries could provide useful air bases for a flank attack on either Germany or Britain - good for each to have, and good for each to prevent the other from having. Scandinavia was in the maelstrom of the new geopolitik.⁶

Due to their geographical positions, Finland and Iceland were also drawn into the conflict. The Nordic region became the stage for many scenes of modern warfare: naval and air attacks on convoys off Iceland and on the "Murmansk Run"; amphibious operations in central and northern Norway; and, multi-divisional land battles in northern Finland.

Even as man fought in the Arctic, or on its fringes, he began to overcome his ignorance, his fear of the Far North. Most important of all, he learned that it is quite possible to not only survive in the Arctic; but, actually, to operate with a great deal of efficiency - when given the proper training and equipment.

In the post-war period, attention was initially focused on the peaceful uses of the Arctic in the new Air Age. The North Polar Projection replaced the Mercator in many textbooks and school rooms, thus emphasizing the popular interest in the Arctic as the potential aerial hub of the world. Then, with the recognition of the growing confrontation between the North Atlantic allies and the Soviet Bloc, the Far North began to take on a more ominous hue. This was particularly true for that portion of the Arctic which lay between the great power blocs - the Nordic Arc.⁷

THE NORDIC ARC



The Nordic Arc, as defined in this paper, is bounded in red.

A glance at a map should be sufficient to bring home to everyone the fact that...the Scandinavian peninsula no longer occupies a remote grandstand in which its inhabitants can be passive and neutral...in addition to Denmark, Norway and Sweden, the remoter Scandinavian regions of Iceland, Greenland, the Faeroes, and Spitsbergen have now acquired a quite new and possibly considerable strategic significance.⁸

Concern over the North Polar Region and its newly recognized strategic significance was intensified by the development of the missile-launching submarine and the intercontinental ballistic missile. The strategic value of the region was further enhanced by the capability of the nuclear submarine to operate successfully under the Polar Icecap.

Perhaps, General H. H. Arnold may have best summed up the importance of the Arctic, from a military point of view, when he said that if World War III came, its strategic center would be the North Pole.⁹

However, we should guard against considering the Arctic solely from the military standpoint - there are other aspects to consider.

It is still difficult to impress upon the public and industry at large that the most essential quality of the Arctic is not cold, or gold, or polar bears, but a central position in the world community. The world's land masses are grouped mainly in the northern hemisphere; and the most densely populated centres are also in the north, even north of the Tropic of Cancer. The notion of the Arctic Ocean as a new "Mediterranean" has become a truism without being fully understood.¹⁰

The analogy between the ancient Mediterranean and the Arctic Ocean of today is worth further examination. In Roman times, and even earlier, all that was truly important in the world was in or close to the Mediterranean - people, resources, communications, trade routes. Now, we are faced with the "notion" of the Arctic Ocean as the "new Mediterranean" - the new center of world power in the same sense that the Mediterranean of Roman times was the true center of world power. How valid is this notion?

The Arctic Ocean lies at the junction of two of the world's most important oceans - the North Atlantic and North Pacific - and between the three most important continents - North America, Europe and Asia. The shortest air and sea routes between these continents lie over, or beneath, or along the fringes of the Arctic Ocean. These routes are important - in peace or in war. Their importance in peace, particularly the sea routes, will assume an even greater role as we begin to develop and exploit the resources of the Far North.

So much for geography, what of the people?

Almost 90 per cent of the population of the earth inhabits the Northern Hemisphere, and the greatest concentration of the most intelligent, and consequently the most destructive, peoples is found roughly between the thirtieth and the sixtieth parallels as a circum-polar zone.¹¹

Land and people, then, form a ring around the Arctic. But what of resources, particularly within the Arctic itself or on its fringes?

The resources are there. They have been discovered. Additional

discoveries are being made at a rate difficult to grasp. Unfortunately, the public is generally unaware of the discoveries in the Polar regions and of the implications of these discoveries in terms of future power potential. It should be recognized that a very

...meaningful
and strategically important race may be on for control of the top of the world - the Arctic regions that contain colossal, untapped resources. The industrial development of the free and communist worlds - two worlds in competition - depends on securing access to more oil for energy and minerals for production. The strategic balance could hang on the rate of exploitation of new areas by the respective world systems.¹²

The land areas within the Arctic regions are now known to possess tremendous mineral and petroleum resources. In fact, there is speculation that the development of that portion of Siberia which is north of the Sixtieth Parallel may make the Soviet Union the wealthiest nation in the world in terms of mineral wealth: as much gold, coal, and iron ore as the rest of the world put together; as many diamonds as South Africa; major commercial deposits of tin, copper, nickel and platinum.¹³

Even more important, in view of the current dependency on petroleum products, are the on-shore oil and natural gas resources.

Since the first oil well gushed forth in Tyumen province in 1960, Siberia has been found to contain the largest gas and oil reserves of any country in the world. Almost every day brings new discoveries....Scientists now believe that the entire region, equivalent in size to all of North America, is like a giant raft floating on a sea of gas and oil.¹⁴

On the North American land mass, though rich gold, nickel, and

copper deposits have been worked for many years in Alaska and Canada, and what may be the world's richest radioactive deposits exist in the Northwest Territories of Canada, it is the fairly recent oil and gas discoveries that have captured the interest of the public. The North Slope Field in Alaska and the more recent discoveries in the lower Mackenzie River Valley are now looked upon, perhaps too optimistically, as at least a partial solution to the current energy shortages in both Canada and the United States.

On-shore Arctic oil and gas fields north of the Sixtieth Parallel are currently estimated to hold "ultimate recoverable reserves" as indicated in the table below.

TABLE I
ULTIMATE RECOVERABLE RESERVES¹⁵

<u>Country</u>	<u>Oil</u> <u>(billion barrels)</u>	<u>Gas</u> <u>(trillion cu. ft.)</u>
Russia	350	2,000
Alaska	75	450
Canada	105	630
Other	20	120
TOTAL	550	3,200

This table, and the preceding discussion, concerned primarily on-shore resources. In recent years, off-shore exploration on continental

shelf areas in many parts of the world has resulted in major producing fields. The prospects for similar results in the Arctic regions appear to be excellent, for the Arctic Ocean is

...unique among the oceans of the world. The major portion of it is continental shelf - that we know. Off Alaska and Greenland the shelf is between one hundred and two hundred kilometers wide, which is normal. But the East Siberian Shelf, the Barents Sea Shelf, and the Kara Sea Shelf are from 500 to seventeen hundred kilometers wide - truly astounding widths.¹⁶

There is, then, every reason to believe that the continental shelf areas of the Arctic Ocean will yield significant oil and gas resources. Due to the extent of the shelf areas, this should be particularly true in those areas north of the Soviet Union and those within the Nordic Arc. In the latter case, such fields would be a logical extension - geologically speaking - of the fields already in production in the North Sea and the Norwegian Sea south of 62°.¹⁷ In fact, the Soviet news agency Tass has gone so far as to suggest that "oil reserves under the Arctic Ocean alone represent more than 50% of world reserves."¹⁸

In this context of diminishing world fossil fuel reserves, it can be assumed that exploration, development, and production for and of these resources will become increasingly active in the Arctic in the decades and even the years immediately ahead....a similar situation applies to ferro-alloys, copper, lead, zinc, and tin as a minimum list. These generalizations are made in relation to total world requirements without regard to differences in national needs and resource endowments. This is merely a statement of the conclusion that the Arctic will increase in importance as a source of world minerals.¹⁹

It would appear, then, that the Arctic Region is taking on greater significance - both militarily and economically - than ever before. However, it should be noted that the military significance may not be strategically paramount after all.

The strategic significance of the Arctic has increased as civilization has progressed....It is tragic that the real possibilities for economic development should be overshadowed and obscuredGranted peace, the economic strategic importance of the northlands will exceed their military significance.²⁰

That economic importance derives primarily from the great quantities of critical natural resources - to include staggering amounts of the world's remaining energy sources of coal, oil and gas - which lie within or adjacent to the Arctic Circle. Commercial exploitation of all of these resources will depend on transportation within or along the fringes of the Arctic, to specifically include major use of maritime routes. The thesis of the Arctic Ocean as the "new Mediterranean" of the modern world appears to have considerable validity.

If the Arctic Ocean is, indeed, the new "Middle Sea" or the "real Mediterranean", which of the modern powers is going to make it their "Mare Nostrum"? The Soviets may well be on their way to dominating the Arctic as thoroughly as the Romans once dominated the "old" Mediterranean.

In the past few decades, the Soviets have invested more resources to develop the northern region than any other geographical region in the world. The Soviets today have the largest cities, settlements, mines and industrial areas, the largest and most efficient ice-breaker fleet in their sector of the North Polar Region.²¹

The Soviet domination of the Arctic Basin is not complete. However, they may well attempt to increase their domination in the near future. Today, the greatest portion of the Arctic is firmly within the control of one of the Superpowers - that is, the Soviet Union or the United States - or, in Soviet eyes, in the hands of the American surrogate Canada. The status of Greenland might be questioned; but, it would appear that the Soviets have conceded the area to the American sphere of influence.²²

There is, then, only one portion of the North Polar Region where there appears to be an overlapping of Soviet and American interests - only one geographical area which has not been assigned to a specific sphere of influence. The one area where the Russians may be able to increase their presence - perhaps even to eliminate American influence and eventually bring the area completely under their own control. That area is the Nordic Arc.

Unfortunately, we have tended to place a very low priority, both here in the United States and within NATO, on planning for contingencies within the Nordic Arc. Our attention has been focused elsewhere.

Most of NATO thinking has concentrated on the contingency of a massive Soviet attack on the central front. Very likely, this danger is less real than that of Soviet pressures in peripheral areas where Soviet power can be demonstrated at much smaller risk.²³

The lands and seas contained within the Nordic Arc are one such area where Soviet power can be demonstrated at much smaller risk.

We, too, must look to the North. With the increasing strategic importance of the Arctic, we must refocus our attention. We must examine in detail the new strategic importance of the Nordic Arc and delineate the specific interests of the Soviet Union and the United States in this critical area. Finally, we must determine the strategy by which we will protect our interests in the Nordic Arc. We cannot permit Soviet domination. This matter is now beyond the realm of academia, it is of concern to the strategist.

Previously, this part of the world was primarily of academic interest and existed in a political vacuum; now it has become a factor in international relations. The northern hemisphere has long played a dominant role, all of the great powers being closer to the Arctic than to the Equator. The Polar Region is now more the focal point for the interests of the Great Powers.²⁵

CHAPTER I

FOOTNOTES

1. Frank Illingworth, North of the Circle, p. 12.
2. For an excellent account of the voyage of Pytheas, and of the speculation which has surrounded it through two millennia, see Vilhjalmur Stefansson, Ultima Thule, pp. 1 - 107.
3. Helge Giverholt, Storpolitik i Polartrakterna, p. 7. The translation from the original Swedish is my own, as is the case with other quotations from this work.
4. Vilhjalmur Stefansson, The Northward Course of Empire, page unknown, quoted by Anthony Harrigan, "NATO and the Far North", NATOs Fifteen Nations, February-March 1970, p. 19.
5. The term "Scandinavia" is somewhat nebulous, ranging from the strict application to only the countries of Norway, Sweden and Denmark (e.g., Örvis, Ulstein) to a more liberal application which includes both Finland and Iceland (e.g., Scott). For the purpose of this paper, the term "Scandinavia" will be used in the stricter sense, referring only to the three countries. When all five countries are concerned, the more inclusive term "Nordic" will be used (e.g., Andren, Ulstein).
6. Franklin D. Scott, Scandinavia, pp. 215 - 216.
7. The use of the term "Nordic Arc" is, to the best of my knowledge, original with this work. It describes that portion of the globe stretching in an arc between, but not including, Novaya Zemlya and Eastern Greenland; between and including Spitsbergen (Svalbard) and Iceland. It includes, then, the Barents and Norwegian Seas, the Kola Peninsula, and the Nordic territories of Iceland, the Faeroes, Jan Mayen, Spitsbergen, and those portions of Norway, Sweden and Finland north of 66°, with a slight modification on the Norwegian coast to include Trondheim. See the map following page 4. The Nordic Arc is considerably larger than the area called Nordkap, or Northern Cap, described as strategically important by Örvis and other Scandinavian writers.
8. Royal Institute of International Affairs, The Scandinavian States and Finland, A Political and Economic Survey, p. vii.
9. Giverholt, p. 3.
10. Michael Marsden, "Resources and Communications in the Arctic", in The Arctic Frontier, ed. by Ronald St. John Macdonald, p. 26. The

The theme of the Arctic Ocean as the "new Mediterranean" ("Mittlemeer der Erde") is central to Vitalis Pantenburg, Seestrassen durch das Grosse Eis, which is cited later. It may have originated with Vilhjalmur Stefansson, The Northward Course of Empire, published in 1922.

11. Kaare Rodahl, North, p. xii.
12. Harrigan, p. 19.
13. "The Vast New El Dorado in the Arctic", Time, 9 April 1973, pp. 30 - 40.
14. Ibid., p. 30. Emphasis added.
15. John C. McCaslin, "What they've found in the Arctic", Oil and Gas Journal, 23 October 1972, p. 70.
16. Ned Ostenso, University of Wisconsin geologist, as quoted by Richard Petrow, Across the Top of Russia, p. 168. Emphasis added.
17. An excellent description of the discovery, development, and importance of the North Sea and Norwegian Sea fields south of 62° may be found in LTC Henrik O. Lunde, "North European Oil: Implications for NATO Nations", Parameters, Vol. VI, No. 1, 1976, pp. 87 - 96. In this work, LTC Lunde touches very briefly on more northerly possibilities.
18. Tass statement, date unknown, quoted by Willy Østreng, "Strength and Impotence. The Developing Countries and the Development in New Territories", The Challenge of New Territories, p. 117. Also mentioned by COL John H. Roush, Jr., "Norway's Significance from a Military Point of View", Military Review, July 1975, p. 22.
19. George W. Rogers, "The International Implications of Arctic Exploitation", in The Arctic Frontier, ed. by Ronald St. John Macdonald, pp. 306 - 307.
20. Lawrence M. Gould, The Polar Regions in Their Relation to Human Affairs, p. 10.
21. Vitalis Pantenburg, Seestrassen durch das Grosse Eis, p. 35. The translation from the German original is my own, as is the case with other citations from this work.
22. Nils Ørvik and Niels J. Haagerup, The Scandinavian Members of NATO, p. 2.

23. Henry Kissinger in the foreward to Nils Örvik, Europe's Northern Cap and the Soviet Union, p. 11. I believe this viewpoint to be even more valid today than when it was written in 1963.

24. Pantenburg, p. 118.

CHAPTER II

THE NORDIC ARC: SEEDS OF CONFLICT

Having surveyed the growth of the importance of the Arctic, from the earliest mention of ancient times to the modern world, let us now narrow the focus of our attention to the area of the Nordic Arc as an arena for a potential conflict of interests between the Soviet Union and the United States.

For more than a century, Scandinavia has found itself in a power triangle between Russia, Germany, and Britain - in recent decades supplemented by the United States. Geography was and is an important factor, but there also have been less tangible variables involved, such as traditional trade, cultural patterns, and converging or conflicting strategic interests.¹

It is a generally accepted dictum of international relations that when a given geographical area is subject to the converging or the conflicting strategic interests of more powerful nations, that area has within it the seeds of conflict.

Can war swing off in another direction and leave an area such as Scandinavia untouched? Escape seems hardly conceivable for a region that lies directly under the air routes connecting the probable chief antagonists, an area, furthermore, that straddles the sea routes and that has within itself great productive potential - for food, iron ore, wood, and industry.²

Geographical location and the possession of valuable natural resources - both of value to the Great Power blocs - constitute the seeds of conflict contained within the Nordic Arc.

THE NORDIC COUNTRIES



The Nordic Countries in their North European setting.

While the Nordic Arc is not the source of great quantities of food-stuffs in the agricultural sense, it is extremely important as a source of seafood. The Barents Sea, the Norwegian Sea, the waters around Iceland and the Faeroes contain some of the premier fishing grounds of the world. The economies of Iceland and the Faeroes are almost completely dependent upon fishing, that of Norway to a much lesser degree.

Fishing is so important to Iceland that this small country and Britain have suffered through several so-called "Cod Wars" in recent years in which nets have been cut, ships have been rammed, and shots have been fired. Each of these "wars" has posed a serious threat to the somewhat tenuous ties between Iceland and NATO. These ties are extremely important, both to NATO and to the Soviet Union, because of Iceland's geographical position.

Iceland's strategic location between Great Britain and Greenland provides an irreplaceable base for surveillance of submarines sailing out of the U.S.S.R.'s northern bases into the Atlantic. As with Norway...Moscow has continually urged Iceland to withdraw from the ocean alliance.³

Iceland, then, is far more than the proverbial "Land of Ice and Fire". It is a major source of seafood rich in protein. It provides a base for air and naval forces, for surveillance and possible subsequent acts which would affect the control of a significant portion of the North Atlantic and the vital air and sea lanes which cross it. A portion which is of great, even vital importance both to the NATO nations and to the Soviet Union.

The strategic significance of Iceland today

cannot be overemphasized. The confined waters in the Greenland-Iceland-Faeroes-Scotland region might be likened to a lock, and whoever holds the key controls the North Atlantic. A change in the existing situation would result in an entirely new politico-military picture both in Europe and the north.⁴

The importance of fishing rights and the matter of strategic geographical located are not items which are confined to an evaluation of the importance of Iceland, the "key" to the North Atlantic - they also apply to Norway. Indeed, there are also grave implications concerning the waters off the coasts of Northern Norway: the Norwegian Sea and the Barents Sea. Recognizing the growing importance of the fishing industry to the Russians, one author has even suggested that this is an area of potential conflict between the Russians and the Norwegians.⁵ This is due in part to the fact that, for the Norwegians, fishing and the processing and export of fish products have been a major source of income for many years.

The Norwegian Sea, and to a lesser extent the Barents Sea, contains some of the worlds richest cod and herring fisheries. The Russians also seek to exploit these waters, primarily from fisheries located on the Kola Peninsula. The potential for conflict becomes more apparent where the Soviets, through various forms of harassment - to include naval maneuvers, missile and nuclear testing - have prevented the Norwegian fishermen from using their traditional fishing banks, particularly those which are located in the Barents Sea.

Norway is also important as a source of iron ore. This ore is not

from her own relatively small deposits in the northern provinces, but from the mammoth, extremely rich Kiruna field in Northern Sweden. This ore finds its primary outlet through the Norwegian port of Narvik. This same ore was one of the primary reasons for the German and British interest in Norway during World War II.

Then, too, there is the matter of Norway's geographical position and her long ice-free, heavily-indented coastline whose many fjords could shelter all the navies of the world.⁶

...Norway offers
a favorable strategic base of operations for a
Central or East European state that intends to
dispute the naval supremacy of the Western Powers.⁷

Her food production, iron ore, ice-free fjords, and strategic location were quite reason enough to compromise Norway's neutrality in World War II. Now, there is a possibly even greater value in a newly-discovered resource:

...the discovery of oil in the North Sea increases the importance of Scandinavia as such, Denmark and Norway being...littoral states. This could lead to problems in policing the North Sea - protecting oil rigs, monitoring pollution, safeguarding fishing - and might also act as a further incentive to the Soviet naval expansion in the North Atlantic/North Sea area.⁸

There is no question of the importance of the North Sea oil and gas fields to an energy-starved Western Europe. These fields also serve to increase the economic and political importance of Norway. It has even been suggested that these finds may make Norway the richest nation, per capita, in all of Europe.⁹ And this with petroleum exploitation

currently limited to areas below 62°!

Total exploitable reserves below the 62 degrees north parallel are estimated at 1 to 2 billion metric tons of oil and 1 to 2 trillion cubic meters of gas. These are cautious estimates and the total could be higher.¹⁰

These North Sea Fields, as important and as rich as they appear to be, pale into insignificance beside the potential which is now believed to exist under other waters of great interest to the Norwegians ... and to the Russians: the Norwegian Sea Shelf and the Barents Sea Shelf!

...exploration in the North Sea would not have the same direct strategic side-effects as possible large-scale discoveries further North. The coastal area from the Lofoten Islands northward is believed to contain very important quantities of oil, and the Russians have claimed that large oilfields are situated below the shallow Barents Sea stretching up to 85° North.¹¹

It is worth noting, in passing, that the Russians may very well be far more interested in matters other than the oil potential of this region. As long as submarine detection and warning systems depend on the use of acoustics, oil drilling will adversely affect their operation. It is known that the Russians are extremely sensitive concerning any submarines that may operate in the Barents Sea area!

For both economic and military reasons, then, ...oil may be the factor which will create the problems of the future as explorations get under way above 62° North. If the estimate of the Russian scientists is right, and fifty percent of the world's remaining oil reserves do indeed lie in the Arctic and sub-arctic areas, then the most testing negotiations lie ahead.¹²

While the negotiations over any division of the waters and the continental shelf in the Barents Sea would appear to be a bilateral matter between the Norwegians and the Russians, this is not necessarily the case. The proverbial fly in the ointment, in this case, is the very special status of the Spitsbergen Archipelago (Svalbard) and surrounding waters.

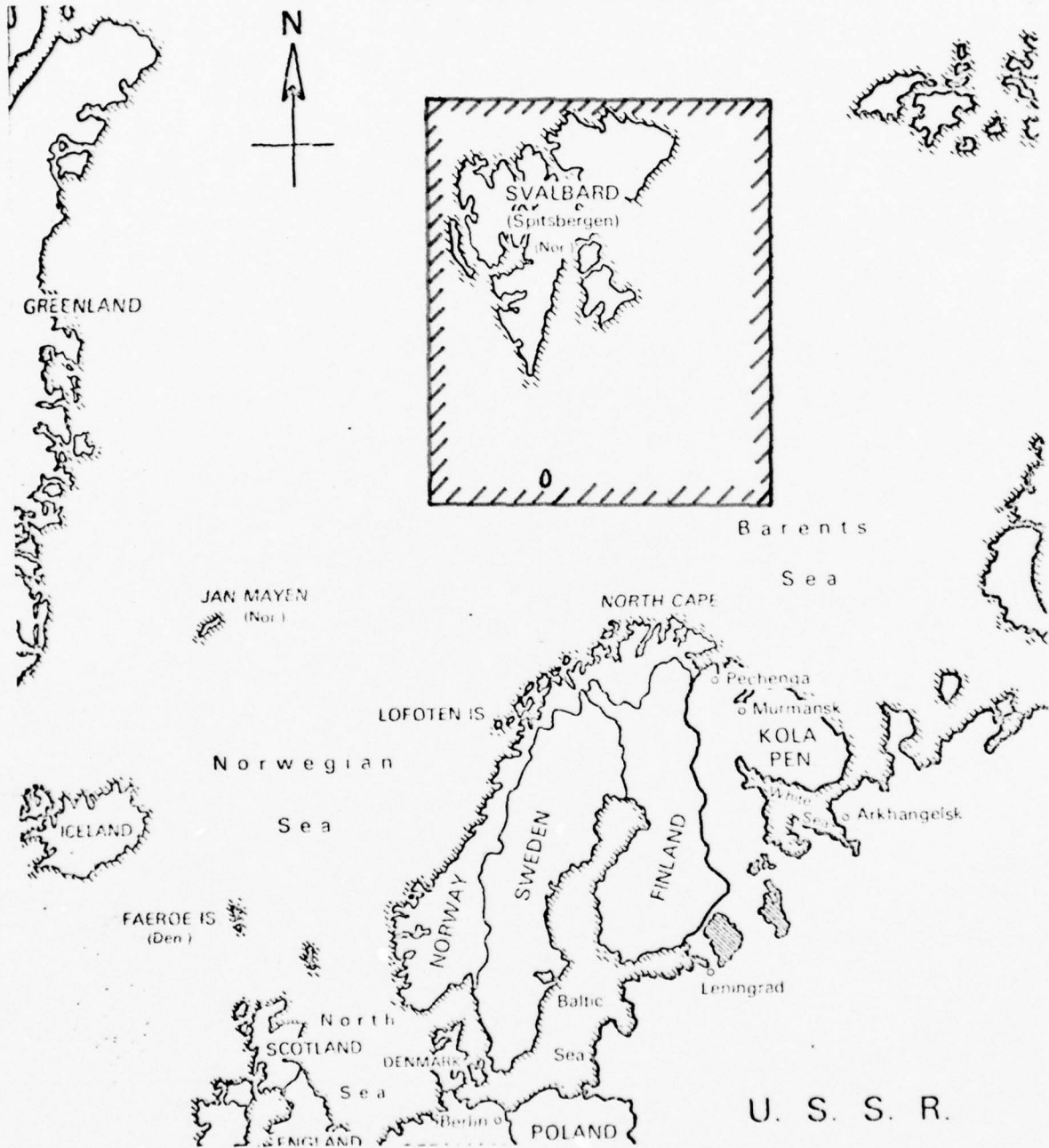
Under the terms of the Treaty of Spitsbergen, signed in Paris on February 9, 1920, all of the signatories ("High Contracting Parties") agree to recognize the full and complete sovereignty of Norway. The area concerned is specifically defined as including Bear Island and all land, islands and rocks lying between 10° and 35° East and between 74° and 81° North (see map overleaf).¹³ Though the area is under Norwegian sovereignty, all of the signatories enjoy

...equal
liberty of access and entry for any reason or
object whatever to the waters, fjords and ports
of the territories specified....

They shall be admitted under the same conditions of equality to the exercise and practice of all marine, industrial, mining or commercial enterprises both on land and in the territorial waters, and no monopoly shall be established on any account or for any enterprise whatever.¹⁴

It is entirely possible, then, that the negotiations concerning the right to explore for and to exploit oil and gas, or any other resources, within the defined area of the Spitsbergen Archipelago could involve any and all of the 41 signatories of the Treaty of Spitsbergen - to include the United States and the Soviet Union! This possibility could pose some

THE SPITSBERGEN TREATY ZONE



The area outlined, though under the sovereignty of Norway, is open to exploitation by the 41 signatories of the 1920 Treaty of Spitsbergen.

very real problems in an energy-hungry world.

This is particularly true since

...the Russians are not merely concerned to get the largest possible share of the Barents oil. They are also intent on keeping prying westerners out of a strategic Arctic region. At and around Murmansk are the naval bases from which their northern fleet, and their nuclear missile firing submarines, can reach the Atlantic through waters that are permanently ice-free. They would like...to turn the Barents Sea into a closed sea....¹⁶

The Kiruna iron ore deposits of Northern Sweden, still among the richest in the world, were of great concern to both Germany and Great Britain during World War II. They are still of great importance. So are the resources inherent in the almost endless forests and the hydroelectric power produced in this region. The geographical location could also be of some importance. If the Russians should decide to invade the northern part of Norway, land routes across the northern portions of Sweden and Finland could be quite useful, as would the airfields located in these same areas. Conversely, should any Western power attempt an invasion of the Kola Peninsula, these same routes and airfields could become significant. Yet, the Finns and the Swedes do not appear to be concerned over the possibility of a Western invasion - only an attack by the Russians.

The general feeling throughout Scandinavia is that in the event of war the northern provinces of Norway and Sweden will be overrun. At Kiruna I was told that the iron mines there and the strategic railway linking them with the

Norwegian port of Narvik and the Swedish ports in the Baltic would be the first target of Russian forces in Finland. One of the mining engineers said: "We're looking over our shoulders to the north-east." ¹⁷

It is little wonder, then, that the Swedes have constructed a major fortified area known as the "Boden Complex" in the area north of the Gulf of Bothnia, between the Luleå River and the Finnish border, and extending inland to the mountains on the Norwegian border. This complex has attracted considerable Soviet interest.

The Swedish defense has attracted the attention of the intelligence of foreign countries, particularly of the Soviet Union. This has been confirmed by a number of industrial and military espionage which have been revealed. ¹⁸

The portion of Finland which lies north of the Arctic Circle has little in the way of resources - only hydroelectric potential and the extensive forests. However, within this area, as part of the pressures brought to bear by the Soviets, are heavy-duty roads and rail lines which lie on an east-west axis - from the Soviet border to near the Norwegian and Swedish borders. Again, as in the case of Northern Sweden, geographical location can determine the strategic importance of the area.

The remaining portion of the Nordic Arc - the Kola Peninsula - is the only portion currently under the direct control of the Soviets. It has considerable economic importance.

Even within the confines of the Murmansk oblast and the Kola Peninsula in particular, the fishing industry (with

its large and very modern fishing fleet) supplies 20 per cent of all the fish products in the Soviet Union, the bulk of the catch derived from the Barents Sea. Metals and timber from this region contribute to Soviet production, while the Soviet fertilizer industry relies for more than half of its materials on the Kola Peninsula.¹⁹

This economic importance is seldom understood in the West. This fact may well be due to the overriding concern of Western analysts for the military significance of the area.

Much of the military force confronting the "NATO strike fleets" is contained in the largest of the Soviet Union's four fleets, the Northern Fleet with its headquarters at Murmansk and operational elements based nearby along the relatively short, ice-free portion of the Kola Peninsula shoreline. This complex has made the Murmansk area the world's largest naval and submarine base, and one of the world's mightiest concentrations of military power. This area supports more ships than are supported by all ports of the United States combined.²⁰

However, there is a third factor to be considered - partly economic, partly military, certainly of strategic importance. That factor is the geographical location of the Kola Peninsula and its surrounding waters at the western terminus of the Northern Sea Route. This route has been of continuing and growing importance to the Russians. As they develop their Arctic regions to a greater extent in the years to come, it will become even more useful, perhaps even for trade between Western Europe and Japan!

For years, the Soviet obsession with creating a sea route was little understood by the West. Today the Route is an operational fact and it has become, not the keystone to be sure, but nonetheless one of the most important arches in the

transitional bridge which has carried the Soviet Union from a land to a sea power. Integrating the Northern Sea Route into the Soviet Grand Design to control world trade through sea power is today a fact of maritime life.²¹

The Kola Peninsula, the surrounding waters, and the Northern Sea Route will be covered in greater detail in the following chapter on the Soviet interests in the Nordic Arc as a whole.

In summary, then, the Nordic Arc may be seen as an area of great and increasing strategic importance - an area of great, perhaps even vital interest to both the United States and to the Soviet Union. It is an area deserving of greater attention on the part of Western strategists - particularly American.

CHAPTER II

FOOTNOTES

1. Nils Örvik, "Nordic Cooperation and High Politics", International Organization, Winter 1974, p. 82. Emphasis added.
2. Franklin D. Scott, Scandinavia, p. 258. Emphasis added.
3. RADM Ernest McNeill Eller, The Soviet Sea Challenge, p. 280. Emphasis added.
4. CPT Christer Fredholm (Royal Swedish Navy), "The North Atlantic: The Norwegian Sea, A Scandinavian Security Problem", Naval War College Review, June 1972, p. 60. Emphasis added.
5. Nils Örvik, Europe's Northern Cap and the Soviet Union, pp. 15 - 17. Örvik advances the thesis of fishing rights as having a major potential for economic conflict between Norway and the Soviet Union. Writing in 1963, prior to any knowledge of oil and gas potential, he focused on the Barents Sea as a probable arena of conflict. Fourteen years later, we find the harassment continues and the boundary claims are still in dispute. The Russian goal may now be more concerned with oil and gas and less with cod and herring.
6. COL John H. Roush, Jr., "Norway's Significance from a Military Point of View", Military Review, July 1975, p. 18.
7. CPT O. P. Araldsen (Royal Norwegian Navy), "Norwegian Defense Problems: The Role of the Navy", United States Naval Institute Proceedings, October 1958, p. 41. Italics in the original.
8. Clive Archer, "Scandinavian Security: Its Background and Development", Royal Air Forces Quarterly, Spring 1975, p. 41.
9. General Sir John Sharp (Great Britain), "SACEUR's Sub-commanders Take the Floor: Northern European Command after 25 Years", NATO's Fifteen Nations, February-March 1976, p. 74.
10. Roush, p. 19. His footnote credits these figures to information contained in "Norway as an Oil Producer", News of Norway, 22 November 1974, p. 75.
11. Egil Ulstein, Nordic Security, p. 21.
12. Sharp, p. 74.

13. For the complete text of the treaty, see Treaties and Other International Agreements of the United States of America, 1776 - 1949, ed. by Charles I. Bevans, Vol. 2, pp. 269 - 277. Original signatories included the British Empire, Denmark, France, Italy, Japan, Norway, Sweden, the Netherlands, and the United States. Later, these nine were joined by 32 others to include, in 1925, the Soviet Union. Original signatories were listed in the Preamble, description of the area in Article 1 (Ibid., pp. 269-70).

14. Article 3, Ibid., p. 271.

15. Ibid., p. 273.

16. "No Piece of Cake", Economist, 30 November 1974, p. 45.

17. Frank Illingworth, North of the Circle, p. 247. The same idea was expressed to me, personally, by a number of Swedes in the 1952-1953 time frame. One of these was Dr. Nils Andren, a professor of mine at the University of Stockholm. In essence: "If attacked by anyone, we will defend vigorously to the northeast". Hopefully, this attitude still prevails.

18. Nils Andren, Power-Balance and Non-Alignment, p. 174.

19. John Erickson, "The Northern Theater: Soviet Capabilities and Concepts", Strategic Review, Summer 1976, pp. 69 - 70. Terrence Armstrong, Russian Settlement in the North, p. 143, indicates Kola fisheries produce 25% of the total Soviet catch, vice the 20% cited by Erickson. However, Armstrong's figures refer to the 1957 season.

20. COL Arthur E. Dewey, "The Nordic Balance", Strategic Review, Fall 1976, p. 51. Emphasis added. Wolfgang Höpker, "Soviet Global Strategy: The Great Challenge to the West at Sea", United States Naval Institute Proceedings, December 1975, p. 27, characterizes the Kola as the "greatest military complex in the world today". John Erickson, Soviet-Warsaw Pact Force Levels, p. 72, says "greatest single concentration of military bases in the world". Vitalis Pantenburg, in Seestrassen durch das Grosse Eis, p. 33, uses the phrase, "greatest power complex ("Stutzpunkt-komplex") in the world".

21. CPT T. J. Laforest (United States Navy), "Strategic Significance of the Northern Sea Route", United States Naval Institute Proceedings, December 1967, p. 64.

CHAPTER III

SOVIET INTERESTS IN THE NORDIC ARC: THEIR GATEWAY TO ULTIMATE SUPREMACY

The Soviet's drive toward ultimate world domination takes many forms - political, psychological, military, economic - sometimes singly, more often in combination. Their thinking appears to be highly influenced by two primary factors: a long-term, historical perspective; and, a fundamental belief in economics as the driving, determining force. They have noted Western vulnerabilities - particularly the economic ones - and are prepared to exploit them, whenever and wherever possible.

From the very beginning of the Soviet Union, their planners have emphasized the need for the construction of a strong industrial base, through a series of five-year plans, in order that the Soviet Union might compete with - and eventually surpass - the highly industrialized nations of the West.

The tenth five year plan (1976-1980) reaffirms the priority of heavy, power-oriented industries as the core of Soviet economic strategy and brings into sharp focus the need to expand fuel-energy supplies. Closely linked with these priorities, and for other reasons as well, the coming years will see still greater efforts to develop Siberia and adjoining areas of the Asiatic U.S.S.R.¹

The Soviet emphasis on the heavy, power-oriented industries has several ramifications: it enables them to support military, air and naval forces of inordinate size and strength; allows them to compete with the industrialized nations of the Atlantic Community and Japan

for an ever-increasing share of world markets; and, it permits the Soviet Union to develop into a maritime power of the first magnitude. Each of these ramifications has both political and psychological effects on other nations, in addition to the more obvious military and economic impacts on the total balance of world power.

To develop this industrial base at increasingly higher levels, the Soviets must be able to increase the amount of energy available within their own boundaries. In addition to meeting their own increasing needs, the Soviets may well be thinking in terms of exportable energy surpluses. Such exports could very well become the ultimate economic weapon of the future!

The COMECON nations are already primarily dependent on Soviet largess to meet their own needs for energy.

The neighboring COMECON states of East Europe are also critically dependent on Soviet petroleum, and increasingly dependent on Soviet gas and, to some extent, coking coal. Some 70 million tons of Soviet oil and 20 million - 21 million cubic meters of gas...are already committed to East Europe by 1980. And while petroleum deliveries to these states may not grow much further, gas exports may easily double or even triple in the subsequent decade.²

In any discussion of energy supplies, and the impact of such supplies on the world's economy, thoughts naturally turn to Middle Eastern oil and the recent impact of oil embargoes - or the threat of embargoes - on world affairs. There is no question of the current importance of the Middle Eastern petroleum resources. What is not generally recognized is

that the Soviet Union has become the world's leading producer of oil!³
The possibilities for the further expansion of Soviet oil production, and they appear to be excellent, depend primarily on further discoveries and exploitation of oil fields located in the Arctic portions of the Soviet Union - particularly those areas adjacent to or within the Nordic Arc.

A second major source of energy is natural gas - dependence on which was so vividly illustrated in the United States by the shortages experienced during the winter of 1976-1977. Another little recognized fact is that the Soviet Union has explored reserves of gas which are by far the largest in the world!⁴ Between 60% and 75% of these explored reserves are located in the Arctic portion of Northwest Siberia, and new discoveries are being made in the lower Ob River valley (the site of the supergiant producing fields known as Medvezhye and Nadym), in the Bolshezemelskaya Tundra (just east of the Pechora River on the shore of the Barents Sea), and on the Yamal Peninsula (which juts into the Kara Sea between the Pechora and Ob Rivers).⁵

Like oil, the possibilities for the further expansion of Russian gas production appear to depend primarily on further discoveries and exploitation of gas fields located within or adjacent to the Nordic Arc.

Areas due for detailed survey over the next two to three years include the Kara, Barents and Pechora Seas. According to B. V. Tkachenko, director of Russia's Institute of Arctic Geology for 25 years, development of oil and gas deposits along the western Arctic shelves would begin within 10 years.⁶

This movement to offshore exploration is based on the previous on-shore finds in close proximity to the coast and the firm belief that the fields extend beneath the adjacent seas.

Impetus for Russia's northerly extension of exploration comes from the Yamal Peninsular(sic) where a wildcat near Cape Kharasavei flowed gas at some 35 million cfd from a depth of 1,600 m. Estimates indicate that the field, newly named Bovanenko, contains over a million million m³ of gas. It is the fifth find on the peninsular, but far and away the biggest.

* * *

The Yamal...gas deposits are confidently expected to extend offshore and this in itself puts the potential of the Barents Sea at a high level.⁷

The primary problem with the exploitation of these oil and gas fields in the Far North, once production problems have been overcome, will be transportation - both to internal and to world markets. At the present time, all producing oil fields have been linked by pipelines to the major Soviet industrial areas, to the East European COMECON nations, and to ports on the Baltic and Black Seas.

However, the transportation of natural gas poses greater problems than the transportation of oil. A gas pipeline can transport only about one-fifth of the caloric energy carried by an oil pipeline of the same diameter.⁸ Further, the newer gas fields in the Far North are even more remotely located than the producing oil fields in the Soviet Union. To solve these problems and

...speed up the exploitation of Siberian reserves, the Soviet Union is prepared to barter large quantities of gas for pipes and

compressor stations. It has signed a number of barter contracts with West European firms and has renewed negotiations with United States companies...on the \$ 8 billion North Star project to export liquefied methane (LNG) through the port of Murmansk.⁹

From information currently available, it appears that the North Star project will provide for the transportation of gas from the current operating Medvezhye and Nadym fields through approximately 2,000 miles of pipeline to the seaport of Murmansk. There the gas will be loaded on LNG super-tankers for further shipment to the United States and other Western nations.¹⁰ Whether the fields on the Yamal Peninsula and in the Bolshezemelskaya Tundra will be linked to the North Star Pipeline or be exploited through ports on the Northern Sea Route is not now known, though it would appear that the pipeline alternative would be more advantageous. In either case, transportation to world markets will depend on sea routes through the Nordic Arc.

The third major source of energy today is coal. Unlike the Soviet preeminence in oil and gas, so little known, it is generally accepted that the Soviet Union has long been the leading coal producer in the world.¹¹ In terms of expansion of that production, particularly in the coking coal needed by the East European COMECON nations, only the Pechora River basin¹² and, possibly, their Barentsburg concession in the Spitsbergen Archipelago appear to have the potential. The most economical means of transportation from the Pechora basin to Soviet internal markets is through the Northern Sea Route to the White Sea

and then through the Soviet canal system; to the COMECON nations and other world markets by means of the Northern Sea Route and then over the sea routes through the Nordic Arc.

In the Soviet expansion of energy production - be it oil, gas or coal - greater reliance must be placed on sources which are within or adjacent to the Nordic Arc and which depend for access to world markets on transportation, primarily sea routes, through the Nordic Arc. This must be a matter of great concern to the Soviets, it is certain that

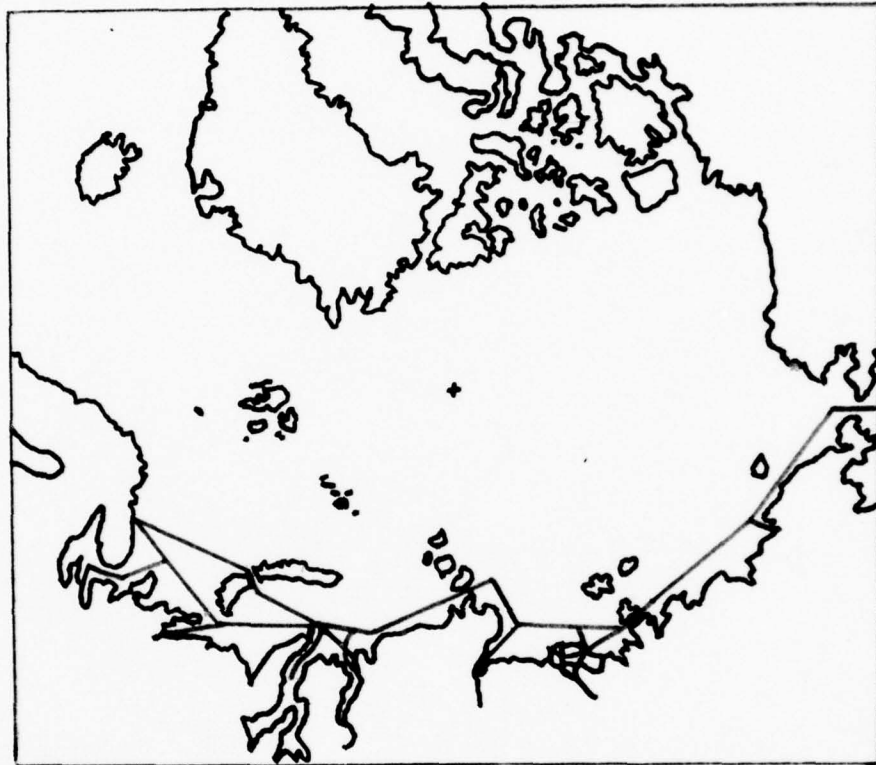
...the mounting anxiety over resources among Western industrial powers has not been lost on Soviet leaders. They are expected to place increasing value on their energy and other mineral riches and to keep the long-term goals of national security, self-sufficiency and full control over supplies foremost in their development plans.¹³

Anxiety over energy resources for the continued expansion of the Russian industrial base - and for possible use as an economic weapon in relation to other nations - is only one of the Soviet interests in the Nordic Arc.

A second major interest revolves around the strategic importance of the Northern Sea Route and the fact that the western terminus of the Route lies within the Nordic Arc. The importance of the Northern Sea Route is often underrated in the West - if, indeed, it is understood at all. From the Soviet point of view, the

...Route promised to be the means of unlocking the storehouse of natural resources in the Arctic regions and of integrating the northern aborigines with the rest of the population. The stable sea communications

THE NORTHERN SEA ROUTE



The Northern Sea Route - a vital link in the Soviet design to exploit the riches of her Arctic and sub-arctic regions. It may someday serve as a vital link between the Western European nations and Japan, far shorter than the conventional routes around Africa, or through the Suez or Panama Canals.

required for economic development would also provide a basis for establishing and maintaining scientific observation stations and the facilities of an Arctic air theater and enable the government to give effect to the declarations of Soviet diplomacy on international rights in the Arctic.¹⁴

Full development of the Northern Sea Route will not only permit the exploitation of the tremendous resources of the entire Soviet Arctic coastal regions; it will also allow greater exploitation of the riches of the vast interior valleys - the Ob, Yenisey, Khatanga, Lena, Yana, Indigirka, and Kolyma - all of which drain into the Arctic seas. Raw materials from these valleys could be exported, not only to the industrial regions of the Soviet Union but also to the resource-hungry markets of Western Europe and Japan. It might even become a major shipping route between Western Europe and Japan and China - far shorter than the conventional routes around Africa or by way of the Suez or Panama Canals.

The Northern Sea Route then, is an integral geographic part of the Soviet Master Plan for world economic domination. It is more than a dream; it is more than an avenue to aid in the economic exploitation of the natural wealth of the Arctic; it is even more than a strategic supply and defense line. The significance of the Northern Sea Route over the Soviet Arctic is that it provides the strongest national geographic link in the girdling chain of Soviet seapower, economic in nature but power nonetheless.¹⁵

The primary Soviet interests in areas within or immediately adjacent to the Nordic Arc which are already under their control (i.e.: the energy-producing resources of oil, gas and coal, and the Northern Sea Route as the means for the development of those resources), are basically

economic interests, concerned with the exploitation of Arctic resources. The timing of this resource exploitation and the objectives which the Soviets will seek to attain are important to the world.

The nature and timing of resource exploitation in the Arctic will be determined by...the ability of those resources to enter world markets in competition with resources from other sources of supplyExploitation will therefore be for export from the Arctic to markets elsewhere in the world. This process will have important international implications.¹⁶

In addition to the obvious economic advantages to be gained, there will be important political and psychological advantages which will accrue to the Soviets if they succeed in becoming the dominant energy producer in the world. They will be possessed of great leverage in the affairs of other nations. They will further increase this leverage by following the practices of the great maritime nations of the past and carrying the cargoes concerned in Soviet shipping. The profits to be gained - and thus denied to other nations - will only serve to increase their economic leverage.

The development of the Soviet merchant marine is perhaps the most paradoxical aspect of the emergence of the Soviet Union as a leading sea power. The Soviet Union - geographically the largest nation in the world, with a contiguous and comparatively compact territory...has the world's fastest-growing merchant marine; it is the third largest in numbers of oceangoing ships, and the sixth largest in terms of carrying capacity.¹⁷

The Soviet merchant marine is continuing to grow, both in numbers and in carrying capacity. If present trends continue, the Soviets will

soon possess the largest and most modern merchant fleet in the world - thus realizing the dream of Peter the Great, who first began to orient the Russians outward to the oceans of the world.

TABLE II

THE GROWTH OF THE SOVIET MERCHANT FLEET¹⁸

	<u>1950</u>	<u>1954</u>	<u>1958</u>	<u>1962</u>	<u>1965</u>	<u>1968</u>	<u>1970E</u>	<u>1980E</u>
Number of Ships	432	487	774	1002	1345	1442	2600	4300
Total DWT (millions)	1.8	2.0	3.8	5.9	9.5	11.0	14.8	27.2

Notes: E = estimated DWT = deadweight tons

The full utilization of the potential economic power of this ever-increasing merchant marine, and realization of the political and the psychological side-effects, depends in large part on the ice-free ports located on the Kola Peninsula and on sea routes through the Nordic Arc. The only other ports available to the Russians which can be kept open year-round are some of the Black Sea ports and the ports of the Baltic south of the Gulf of Finland. All of the Soviet Pacific ports, those in the Gulf of Finland, and many of the Black Sea ports are ice-bound at least part of the year.

The same ice-bound limitations also apply to the Soviet fishing fleets. Again, the ice-free ports of the Kola Peninsula are predominant in importance. In the fishing industry, as in the case of the merchant

marine, the growth of the fleet has been phenomenal.

Expansion of the Soviet high-seas fishing fleet is one of their program's most dramatic achievements. Today, it is the largest in tonnage in the world....Like its merchant counterpart, the Soviet fishing fleet is also one of the world's most modern....These far-ranging vessels regularly show a healthy profit. An added dividend is the fleet's ability to incorporate or mask the collection of intelligence information while working foreign waters.¹⁹

Interestingly, in maximizing the economic efficiency of fishing vessels of at least one type, the Soviets have gained an apparent amphibious capability for use when and if conditions warrant.

...the U.S.S.R. has embarked upon construction of the new seaborne autonomous fishing base complex, the VOSTOK. Equipment on board can process 300 tons of raw fish daily. This 21,700 dwt, four-deck ship is powered by two 13,000 h.p. engines and has twin screws. In operation, she will send out 60 ton NADEZHDA boats to fish for her. Obviously, a VOSTOK could be adapted to amphibious operations.²⁰

It is easy for a suspicious Western mind to visualize a few ships of the Vostok type "innocently fishing" in the company of a number of Nadezhda boats off some foreign shore suddenly transformed into a surprise landing force with the smaller craft carrying Soviet Naval Infantry ashore. Perhaps the same thoughts have crossed a Russian mind.

Similar dual advantages accrue in the case of the Soviet icebreaker fleet. Like the Vostok "fishermen", the peaceful uses of the icebreaker have an alter ego.

In icebreakers, the Soviets lead the world.

Their large inventory includes one nuclear-powered vessel and several of the world's largest diesel-electric craft. Each is designed to stay at sea for a year. Apart from facilitating...transit in the Northern Sea Route these vessels could be used to assist combat operations in the Arctic....²¹

The Soviets are well on their way to becoming the foremost maritime power in the world - if they have not already done so. In the words of one author, "The Russian Bear has learned to swim; and he is mastering the currents of the world's seas and oceans."²² The Bear's further progress will depend, to an ever-increasing degree, on his status within the area of the Nordic Arc. Will he be satisfied with the status quo?

Most experts agree that in case of war the Soviets will have to spread their huge naval fleet and their bases to the fjords in North Norway and to the Spitsbergen Islands. The Soviets, however, may attempt to gain a foothold on a smaller scale in "peacetime", that is, during a crisis situation which cannot be defined as actual war.²³

Granted, it is quite likely that the Soviets might first attempt to reduce the vulnerability of their Kola military-naval complex to attack by the simple and relatively inexpensive - militarily speaking - expansion of that complex to include the fjords of Northern Norway. However, it is more probably true that the Soviets would make every effort to bring the entire Nordic Arc under their control and to use the waters and bases in that arc as a springboard into the North Atlantic

...across
which run the vital lines of communication of the Western alliance, the arteries binding Western Europe with North America. While the Soviets still pursue limited objectives within the Mediterranean,

the north European coastal seas form the basis of their grand strategic offensive, with which they would attempt to cut off Western Europe from its American "hinterland" and thereby automatically cause the European defensive front to collapse.²⁴

This version of the Soviet grand strategic offensive appears to be a "Maritime Schlieffen Plan" - on a Grand Scale - wherein the little Low Countries are replaced by the Nordic Arc as the stage, and the powerful Soviet Northern Fleet (and its supporting air and ground forces) replaces the German Right Wing in the primary role.²⁵ Let us now examine the basis for such a script and attempt to identify the new Liege and Namur.

For the Soviet interdiction of the North Atlantic lines of communication - "to cut off Western Europe from its American hinterland" - the forces are available, only an advanced operating base is needed.

A glance at the map of Northern Europe suggests that Iceland is the ideal and, indeed, the only feasible site for the advanced base. From this island, all the...routes and focal areas are within easy reach of the medium-range submarines, surface warships and strike aircraft which the USSR possesses in such abundance; moreover, effective air and sea cover can then be provided for seaborne follow-on supplies from Murmansk - a continuing commitment which could be further eased by the seizure of Northern Norway....²⁶

Iceland and Northern Norway, then, are the key factors in the Soviet Maritime Schlieffen Plan. If the Soviets can secure these base areas, the resulting maritime blockade - or possibly even the threat of such a blockade - offers them the safest, most economical means of conquering all of Western Europe - with its vast industrial base untouched - "the fruits of victory unbruised".²⁷

The physical possession of Iceland, with its air and potential naval bases, would be essential to any such plan. If they possessed Iceland, the Soviets would also need Northern Norway to safeguard their own lines of communication. If these objectives could be secured by means other than the overt use of force, so much the better from the Soviet viewpoint. However, should the use of force be necessary, the Soviets are quite capable

...of mounting the major sea and airborne operation which would then be needed to seize Iceland. In its general expansion, the Red Fleet has not neglected the provision of landing vessels and...has practiced ...invasion techniques in a setting similar to the Icelandic coast. The Red Army is likewise strong in airborne formations, while the Red Air Force has transport aircraft to lift them....

The present prospects for the success of such an operation appear to be at least comparable with those for the German invasion of Norway in 1940 or of Crete in 1941....²⁸

Specifically, what forces do the Soviets have available which they could use for the combined amphibious/airborne operations required to secure Iceland and Northern Norway without weakening their forces elsewhere? There would appear to be sufficient forces already in the Kola Complex or readily available from nearby areas.

One prominent author indicates ground forces in the Kola Peninsula currently consist of two motorized rifle divisions, one airborne division (plus two or three more readily available from Leningrad and the Central Reserve), and a brigade of Naval Infantry (ten battalions of 300 - 400, to include at least one tank battalion with PT-76 amphibious light tanks).

He further indicates that one of the motorized rifle divisions in the Kola area has been given extensive training in amphibious operations.²⁹ The Soviet airlift capability should permit the simultaneous lift of three airborne divisions and their support elements.³⁰

This force of five to six divisions and the Naval Infantry brigade, with supporting air and naval elements, should be more than adequate for the purpose of seizing both Iceland and Northern Norway. This is particularly true when it is remembered that Iceland has no defense forces of her own and Norway has only one brigade group of three battalions in Northern Norway.

Both nations rely on their membership in NATO as their only real guarantee of independence; yet, a Soviet surprise attack along the lines just mentioned could present the NATO nations with a fait accompli before any political consultations could take place. Subsequently, "Communists and leftists all over the world would claim to have the proof that membership in NATO does not guarantee the inviolability of territory."³¹ At such a point, many of the European members of NATO might decide to abandon the alliance and seek individual accommodation with the Soviets.

Would such a scenario include Soviet attacks on the remaining countries in the Nordic Arc - Sweden and Finland? Probably not, though the possibility cannot be ignored. Certainly, the use of the roads and railways in Northern Finland would be of considerable value to the Russians in a campaign in Northern Norway - those in Sweden to a lesser degree.

However, the use of routes through Finland, or both Finland and Sweden, in the attack on Northern Norway would require the allocation of additional military resources and risk both the surprise and the speed which would be so essential for the operation to be a success. Therefore, it is not likely that the Soviets would seek to involve either of these countries initially.

From this examination, it would appear that the Soviet interests in the Nordic Arc cover the entire spectrum: economic, military, political, and psychological. This examination began with the assumption that the resources of the Soviet Arctic - and those obtainable through the full utilization of the Northern Sea Route and Soviet maritime power - may well be the foundation for the future economic domination of the world by the Soviets. This domination can only be effected by the use of the maritime routes through the Nordic Arc.

Given the paranoid concern of the Russians for security, it may seem just as logical - to the Russians - that control of Iceland and Northern Norway is just as legitimate and necessary for their national security as was the control of the countries of Eastern Europe after World War II.

CHAPTER III

FOOTNOTES

1. Leslie Dienes, "Soviet Energy Resources and Prospects", Current History, October 1976, p. 114.
2. Ibid., p. 115.
3. Ibid., p. 116. Dienes' figures cover 1974 and 1975. Russia continues as the top-ranking producer in the world for 1976, according to The Oil and Gas Journal Newsletter, 31 January 1977, p. 4.
4. Dienes, p. 117.
5. "Russians make big gas finds in Far North", Oil and Gas Journal, 23 October 1972, pp. 78 - 81; "The Vast New El Dorado in the Arctic", Time, 9 April 1973, pp. 30, 39; "Russians expand into Arctic areas", Petroleum International, March 1975, p. 23; Dienes, pp. 117 - 118; and, Peter Osnos, "Soviets Are Moving to Extract 'Blue Gold' ", Washington Post, 13 March 1977, p. K1.
6. "Russians expand into Arctic areas", p. 23.
7. Ibid.
8. Dienes, p. 118.
9. Ibid.
10. Osnos, p. K1, and "The Vast New El Dorado in the Arctic", p. 39. Osnos identifies the U. S. companies participating in North Star as Tennco, Texas Eastern, and Brown and Root.
11. Dienes, p. 129.
12. Ibid., p. 130.
13. Ibid., p. 132.
14. Constantine Krypton (pseud), The Northern Sea Route and the Economy of the Soviet North, p. 14.
15. CPT T. J. Laforest (United States Navy), "Strategic Significance of the Northern Sea Route", United States Naval Institute Proceedings, December 1967, p. 65.

16. George W. Rogers, "The International Implications of Arctic Exploitation", in The Arctic Frontier, ed. by Ronald St. John Macdonald, p. 296.

17. Norman Polmar, Soviet Naval Power, Challenge for the 1970s, p. 54.

18. These figures are based on the Center for Strategic and International Studies Soviet Sea Power, pp. 80 - 81. Figures for 1954 and 1962 were cited as estimates of the U. S. Maritime Administration while all other years were taken from "official Soviet data".

19. Ibid., p. 6.

20. Ibid., p. 95. Michael MccGwire also takes note of this dual capability in "Parallel Naval Developments", Soviet Naval Developments: Context and Capability, p. 144.

21. Center for Strategic and International Studies, p. 50.

22. Frank R. Barnett in the preface to Norman Polmar, Soviet Naval Power, Challenge for the 1970s, p. vi.

23. Nils Örvik, Europe's Northern Cap and the Soviet Union, p. 30. In the course of extensive reading, I could find only one author, Norman Polmar, who did not feel that the Soviets needed the Norwegian bases. Polmar seems to feel, p. 81, that all the Soviets need do is deny those ports to NATO forces by mine fields and attack forces on the high seas.

24. Wolfgang Höpker, "Soviet Global Strategy: The Great Challenge to the West at Sea", United States Naval Institute Proceedings, December 1975, p. 27.

25. This analogy drawn between Soviet maritime strategy and the well-known Schlieffen Plan is, I believe, original with this work. It is a critical issue for NATO planners and is deserving of wider dissemination and critical evaluation.

26. F. P. U. Croker, "Iceland and the Maritime Threat to NATO", Journal of the Royal United Services Institute for Defense Studies, June 1972, p. 52. Croker stipulates the seizure of Northern Norway would not be "mandatory" if Iceland were acquired by the Soviets through "peaceful means".

27. Ibid., p. 54. Croker is one of the very few writers to focus on Iceland as a prime objective of the Soviets. Most authors concentrate on Northern Norway to the exclusion of Iceland. I tend to endorse the same line of thinking as Croker - Iceland is vital.

28. Ibid., p. 52. I believe the Soviet prospects should be rated higher. They have the potential for greater control of the sea approaches through seapower than the Germans ever did.

29. John Erickson, "The Northern Theater: Soviet Capabilities and Concepts", Strategic Review, Summer 1976, pp. 70 - 71. The Naval Infantry force portrayed would appear to be about 50% of the total Soviet assets of this type, this may be somewhat inflated.

30. LTC Richard F. Staar (United States Marine Corps), "Strategic Power of the USSR", Marine Corps Gazette, June 1969, p. 36. LTC Staar indicates this lift capability should be increased following the introduction of the AN-22 "air bus" after 1968. John Erickson does not concur with this estimate of capability. He indicates in Soviet-Warsaw Pact Force Levels, p. 51, that the Soviets can lift "3-5 airborne divisions in simultaneous airborne assaults at a range of up to 300 miles, but only 1-2 at a range of up to 1,000 miles and none over a range of 1,200 miles." Given the capabilities of the AN-22, I cannot accept Erickson's estimate.

31. *Ör*vik, p. 37. Italics in the original.

CHAPTER IV

OUR INTERESTS IN THE NORDIC ARC: ON THE FRONTIER OF WORLD FREEDOM

The interests of the United States in the Nordic Arc - like those of the Soviet Union - cover the entire gamut: economic, psychological, political, and military. Unlike the interests of the Soviets, which do appear to be clearly perceived by Russian and Western planners alike, the American interests are not so generally and clearly recognized - at least not here in the United States.

This rather unfortunate state of affairs may be due to any one of several factors, or a combination thereof: the reputation of the Nordic Arc as "Europe's quiet corner"¹, where significant events simply do not happen; a general lack of knowledge of the area and its strategic significance; geographic misconceptions based primarily on Mercator-projection thinking rather than global realities; and, lastly, apparent preoccupations with Central Europe, the old Mediterranean, the Middle East, and other recognized "trouble spots".

It is high time that this lack of recognition is corrected. The purpose of this paper is to do so, at least in small part. American planners must focus at least part of their attention on the Nordic Arc as the potential frontier of world freedom.

An initial step would appear to be an appraisal by the U. S. national security apparatus of the northern flank situation in its entirety. This would include other recent developments in

addition to the Kola Peninsula build-up - North Sea oil, for example, with its economic, political and security implications; the U. S. position on mineral exploration and other privileges enjoyed by the signatories of the 1925 Svalbard Treaty; and the...issues surrounding...delineation of the continental shelf between Norway and the Soviet Union.²

The economic interests of the United States in the area of the Nordic Arc are, perhaps, the least understood. Each of the countries concerned, other than the Soviet Union, has always been a trading partner of the United States. However, that trade has not been of great importance in American eyes even though it may have been of major importance to the other country.

To illustrate this point, the economy of Iceland is seriously dependent on exports, primarily fish and fish products, to the United States. In 1972, as an example, exports to the United States made up 30.7% of Iceland's trade. By contrast, only 8 % of Icelandic imports were from the United States. Thus, the United States was a major factor in Iceland's trade patterns; yet, in terms of total trade volume, Iceland was an insignificant factor in American trade.³

Essentially the same picture emerges in regard to Norway, Sweden and Finland. Their importance to American economic interests has been relatively small. By contrast, American markets have played a much more significant role in their economies, though not necessarily on the same scale as the Icelandic example cited.

However, the recent discoveries of oil and gas deposits in the North

Sea area, and the potential believed to exist further north, could very well alter the traditional patterns. It could even pose the possibility of conflict with the Soviet Union. In an increasingly energy-hungry world, petroleum resources - or even the prospect of such resources - will assume an over-riding importance.

The discovery of oil in the North Sea and the possibility of major oil reserves in the area between the North Cape and...Spitsbergen...increases Norway's strategic importance. Norway and the Soviet Union are currently trying to resolve differences over Norway's claim to sole rights to any oil or minerals in the seas around Spitsbergen.⁴

We have seen the awesome impact of the Oil Embargo of 1973 and of the further developments among oil-producing nations which have focused world attention on the Middle East. It is entirely possible that, in the remaining decades of this century, similar attention may focus on the oil and gas potential of the Nordic Arc. We do not yet know what that potential may be but we can be certain that American economic interests will be involved.

A new White Paper of the Norwegian Government recommends that the State oil company cooperate with experienced oil companies in northern ventures, with Statoil having primary responsibility for all northern operations and a stake of at least 50 per cent in each. The Government recommends for environmental reasons a delay in the start of drilling until the summer of 1978.....⁵

Among the "experienced oil companies" concerned in possible joint ventures with Statoil are: Esso, Mobil, Conoco, Amoco, Amerada Hess, Gulf, Texas Eastern, Texaco, Sun Oil and Monsanto - all American owned. International corporations with heavy American participation include: Shell, the Phillips Group, Occidental Petroleum (Caledonia), Skelly Oil Explora-

tion (UK), Tenneco Great Britain Ltd., Allied Chemical Ltd., and Getty Oil International.⁶ From this listing of large American corporations and multi-nationals, it is quite apparent that American economic interest in the Nordic Arc will increase dramatically if petroleum explorations should prove to be as successful as those already undertaken south of the 62nd parallel.

Through Russian eyes, such increased American attention to the Nordic Arc might not be perceived in terms of economics alone. Though the Soviets know that the development of oil and gas fields within these northerly waters would be of great benefit to Western economies in general, they might well ascribe other motives - more sinister from their point of view - to increased American activities in these waters.

It might, for example, be claimed by the Kremlin that in view of the involvement of many American oil companies in the international oil industry Norwegian rigs and platforms were being used to restrict the freedom on the high seas of Soviet warships in that such platforms were being armed... (or that some)... form of defense installations such as early warning radar systems had been fitted on the rigs.⁷

There have been numerous reports of intense Russian interest in the oil rigs and platforms as they have moved gradually northward. These have usually taken the form of "visits" by both the ubiquitous trawlers and by long-range reconnaissance aircraft. It is clear that the presence of the rigs and platforms is a matter of concern to the Soviets. It is also clear that they could be used as bases for some sort of surveillance system, be it radar or sonar oriented. The question is, to what extent

might the Russians go to allay their concern?

Whether an act of aggression against, or even the insistence upon being able to board and inspect, oil rigs and platforms would be a matter over which Britain, Norway and other West European nations with offshore oil installations could involk the North Atlantic Treaty...is, at the present time, far from clear.⁸

The closer the oil rigs move toward areas where the Russians have legitimate, long-term interests, the greater their concern will be. No case will be more critical than that involving Spitsbergen. Even as the Norwegian-Soviet talks on the line of demarcation in that area began, it was announced that Statoil and American interests were "encouraged" by gas finds in the Spitsbergen area, even though they were not, as yet, of "commercial quality".⁹ Such exploration has since been suspended.

The Russians are particularly sensitive on matters pertaining to Spitsbergen (Svalbard) due, at least in part, to their memories of events on those islands in World War II. At that time, the Germans used the islands as bases for air and naval attacks on Allied convoys headed for Murmansk and Archangel. The "Svalbard Question"

...was a major issue during the visit of then Foreign Minister Trygve Lies to Moscow in November 1944, when Foreign Minister Molotov took up the question of new arrangements for the islands. The question was again raised by Molotov in November 1946. The Soviets suggested joint Soviet-Norwegian defense of the islands which was rejected by Norway.¹⁰

The Russians could very well regard American economic interest in the Spitsbergen area and its petroleum potential as having military overtones. Such a view could have grave consequences.

In addition to the economic interests mentioned, the United States also has strong psychological interests in regard to the countries of the Nordic Arc. These interests are based, at least in part, on what may best be described as a common cultural heritage. This heritage is not always recognized. Yet, it certainly exists.

The bonds between us stretch back to Leif Ericson and now embrace several million Americans of Scandinavian origin. They include a continual interchange of people and goods and ideas.... These countries of the North are the most "Americanized" in Europe, as has been often remarked. We too have received much from them, much besides the smorgasbord and the ombudsman. Interrelations are multifold and deep.¹¹

One example of this oft-forgotten heritage is the fact that the first permanent European settlers in what is now Delaware, Pennsylvania, and the southern part of New Jersey, were the Swedes and Finns who came to settle "Ny Sverige" (New Sweden) during the period from 1638 to 1655. Their best known contribution to American culture was the log cabin - the same log cabin "which became both the home-building pattern and the social symbol of the American frontier."¹²

In a much later period, primarily the Nineteenth Century, very large numbers of Swedes, Norwegians, Finns and Danes settled in the northerly reaches of the American Midwest - particularly in Wisconsin, northern Illinois, Iowa, Minnesota, and in the Dakotas. The extent of this great migration can best be illustrated by the allegation that "there are more people of Norwegian and Swedish ancestry living in the United States today than there are in Norway and Sweden".¹³

By the end...of active migration hardly a family in the North was without a brother or a cousin in the "land of opportunity". Letters and visits and travel reports spread such a feeling of acquaintance with America that...for some Swedes the United States did not seem to be a foreign country, but "the rightful homeland".¹⁴

The ties which have resulted are, if anything, even stronger than those which bind many American citizens to the countries of East Europe and the Mediterranean littoral. The difference is primarily that there has been little reason, thus far at least, to rouse those emotional ties. Should circumstances require it, the impact of the "Nordic vote" in the United States could very well pack as much or more political "clout" than other, more recently publicized ethnic groups.

There are two American interests in the Nordic Region that have both political and psychological aspects. These interests concern the maintenance of the existing "Nordic Balance" and the continuing credibility of the NATO Alliance.

This Nordic Balance is the result of

...the Fenno-Soviet treaty of friendship and mutual assistance, Sweden's policy of non-alignment, and Denmark's and Norway's membership in NATO which is modified by their conditional arms restraints. Theoretically speaking a change in status for one or more of the Nordic countries should result in compensatory adjustments from the others.¹⁵

The concept of the Nordic Balance is, quite simply, an application of the principle of the balance of power applied to the Nordic area. It presumes a stand-off so far as the involvement of the United States and the Soviet Union in this area is concerned. The current status is not

particularly favorable nor unfavorable to either of the superpowers. A balance has been achieved.

It is in the American interest to maintain that balance. Maintenance depends, in turn, on the continuing membership in NATO of the current Nordic members - Norway, Denmark, and Iceland - and the continuing credibility of the Alliance itself.

In recent years, only one of the countries concerned - Iceland - has entertained serious thoughts of leaving the Alliance. Iceland's withdrawal cannot be permitted.

Every effort must be made, diplomatically, to satisfy her government that it is in the best interests of Iceland herself, as well as of her allies, that the NATO military presence should not be run down, still less dismantled altogether, but rather that it should be strengthened....¹⁶

The question of the credibility of the NATO Alliance affects all fifteen of the NATO nations and their territories, not just those areas within the Nordic Arc. It is this credibility which has deterred any attack on any member for more than twenty-five years. For this credibility to continue,

...there must be the certanty of some respose to any aggression or threat of aggression...there is all the difference in the world between the prospect of an easy fait accompli from which an enemy could offer to negotiate from the pleasant prospect of having destroyed NATO's credibility, and an armed engagement mounting in scope and intensity as NATO reinforcements were brought into play.¹⁷

In view of the known Soviet interests in the Nordic Arc, and the

fact that our attention seems to be focused elsewhere, it is quite possible that the Soviets might decide to test the NATO credibility by some form of "adventure" in the Northern Region. It is in this area that the combination of

...weak local forces, evident lack of political will to reinforce Norway...and Iceland in times of tension, and doubt about the will of NATO to broaden the conflict and, if necessary, to use nuclear weapons could lead the Soviets to believe that an attack on the countries of the Northern Region might well be an acceptable risk in light of the strategic advantages to be gained. Thus the ability to deter an attack - the ability to maintain a military balance in the North - depends on the combination of strong local forces, credible reinforcement plans and the assurance that Alliance military capabilities as a whole, including nuclear weapons, will be brought into play, if necessary.¹⁸

The matter of credible reinforcement plans involves multiple considerations. The countries involved - both assisted and assisting - must recognize the threat that exists and condition themselves to the concept that reinforcements will be required (this is particularly true in regard to Iceland); prepare to receive those reinforcements through construction of the necessary supporting infrastructure; and last, but not least, participate in the military exercises needed to impress upon the Soviets that forces are available and trained for such employment. Only through such actions will the Soviets remain convinced of the credibility of the NATO deterrent.

That external reinforcements are considered part...of the defense of Norway...can be seen from the considerable...measures undertaken for their reception. This...has involved airfields,

ports, transportation, repair and maintenance services, medical support, ammunition storage facilities, fuel storage and support arrangements. (All of these)...play their own part in the credibility of the deterrent.¹⁹

In the case of Norway, the preparations to receive reinforcements are obvious to the Soviets. This is not the case with Iceland. In fact, it is obvious to the Soviets that preparations have not been made, as a result the deterrent value is lessened. It is important that this state of affairs be rectified as soon as possible.

If Iceland accepts the NATO argument the situation brightens, but the island must still be safeguarded against a major invasion. While Keflavik and its aircraft must be the keystone of any defence plan, they cannot do the job alone. Ground forces are needed to protect this airbase and the port of Reykjavik, and a mobile element to deal with sea or parachute landings in other parts.²⁰

The fact that NATO has earmarked certain multi-national military and naval forces for use on the Northern Flank has been well-publicized and the exercises by these forces have been well-observed by the Soviets. These actions also lend credibility to the deterrent. This is particularly true in the case of Norway. Regretfully, this is not true for Iceland.

There is a strong interest in the symbolic communication inherent in...the ACE Mobile Force and the new Standing Naval Force, Atlantic.... These forces demonstrate, as it were, Norway's position in the NATO structure. The real defense assistance inheres, however, in the willingness and ability of the U.S. to commit military power to the defense of Norway.²¹

By contrast to the American economic, psychological and political interests in the Nordic Arc, to include those with some military aspects,

the purely military interests are better known and certainly more clearly recognized. The danger inherent in a Soviet Maritime Schlieffen Plan has been noted by NATO commanders and political leaders alike.

He turned to a map which shows the earth from the perspective of the North Pole...."The only way to defend Europe, the Atlantic, and North America, is to defend them jointly," said Admiral Wright. He pointed to the North Atlantic between Norway and Iceland: "This is where they would try to break through with their submarines, in order to drive a wedge between Europe and America. If they were to succeed, it would sever NATO's jugular vein."²²

In order to prevent such a Soviet thrust, American military interests in the Nordic Arc - in conjunction with NATO, but if necessary alone - must focus primarily on Norway and Iceland if we are to gain the following critical strategic advantages:

- * surveillance over air and sea routes in the north
- * base areas for intelligence gathering
- * base areas for sea and air forces designed to prevent or render more difficult the egress of Soviet forces from the Arctic Ocean and the Murmansk area.²³

Such are the advantages to be gained in time of peace. Should deterrence fail and armed conflict result, then our wartime objectives in the Nordic Arc would - of necessity - include the following:

- * to attack objectives in the U.S.S.R.
- * to attack bases in the Murmansk region and on the Kola Peninsula
- * to prevent Russian nuclear-equipped and conventional submarines from reaching their areas of operations

- * to protect NATO's sea transports to Norway and Iceland
- * to prevent seaborne invasions against Norway
- * to watch over the airspace and give early warning of approaching ICBM's.²⁴
- * to prevent Russian surface units from the Northern and Baltic Fleets from reaching their areas of operations on the high seas
- * to prevent air- or seaborne invasions against Iceland
- * to protect the lines of communication between North America and the British Isles, Central Europe, and the Mediterranean.

From this examination of American interests in the Nordic Arc - economic, psychological, political, military, and combinations thereof - it becomes apparent that there is considerable potential for confrontation with the Soviet Union. Should such a confrontation occur and escalate to the possibility of armed conflict, then it is obvious that the dominant roles would be played by air and naval forces.

It is also obvious for those air and naval forces to be most effectively and efficiently employed, there must be bases available in the area of the Nordic Arc - particularly in Iceland and Northern Norway. The defense of those bases will fall to the Army, for sustained land combat is the primary mission of the Army.

CHAPTER IV

FOOTNOTES

1. This very descriptive phrase is used by Vincent Herschel Malmström, Norden, Crossroads of Destiny, p. 119.
2. COL Arthur E. Dewey, "The Nordic Balance", Strategic Review, Fall 1976, p. 59. His reference to the "1925 Svalbard Treaty" is not correct; the Treaty was signed February 9, 1920 (see Treaties and Other International Agreements of the United States of America, 1776 - 1949, ed. by Charles I. Bevans, Vol. 2, pp. 269 - 277).
3. Figures on Icelandic trade were taken taken from Iceland, 874 - 1974, ed. by Johannes Nordal and Valdimar Kristinsson, p. 266.
4. Kenneth H. Bacon, "Norway Hones Its Defenses as Much as Possible While Trying, as Finland Does, Not to Irk Russia", Wall Street Journal, 7 December 1976, p. 46.
5. Shell Briefing Service, Offshore oil and gas north-west Europe, p. 9. Emphasis added.
6. Ibid., pp. 10 - 12.
7. Desmond Wettren, "Defense of the Northern Flank", NATO's Fifteen Nations, February-March 1975, p. 28.
8. Ibid.
9. John Cranfield, "Spitsbergen interest re-awakes", Petroleum International, March 1975, pp. 21 - 23. Further exploration has been discontinued in line with the Norwegian White Paper referred to earlier. It may also serve to make negotiations with the Russians easier for the Norwegians if no oil or gas discoveries of importance have been made.
10. Helge Giverholt, Storpolitik i Polartrakterna, pp. 19 - 20. The translation from the original Swedish is my own.
11. Franklin D. Scott, Scandinavia, p. 276.
12. Ibid., p. 277.
13. This allegation was often repeated during my study at the University of Stockholm by many of the instructors, including Dr. Nils Andren. The author just cited, Dr. Franklin D. Scott, was in Stockholm at this same time and was fond of repeating, "There are more Swedes in Minneapolis than in any Swedish city other than Stockholm", to illus-

trate the same point.

14. Scott, p. 289.

15. Johan Jørgen Holst, "Norwegian Security Policy", Cooperation and Conflict, Vol. 2, 1966, p. 72. For a complete picture of the Nordic Balance, Holst should have included Iceland's somewhat passive membership in NATO. It most certainly is a part of that "balance".

16. F. P. U. Croker, "Iceland and the Maritime Threat to NATO", Journal of the Royal United Services Institute for Defense Studies, June 1972, p. 53. The continuation of Iceland's membership in NATO, and the forces operating against continuance, were both still a matter of concern during my visit in April-May 1976.

17. Timothy W. Stanley, "A Strategic Doctrine for NATO in the 1070s", Orbis, Spring 1969, p. 92. Italics in the original.

18. A. L. King-Harman, "Military Balance in the North", NATO Review, August 1976, p. 10. Emphasis added.

19. Ibid., p. 11.

20. Croker, p. 53. Emphasis added.

21. Johan Jørgen Holst, A Norwegian Look into the Early Seventies, p. 15.

22. Prince Hubertus zu Löwenstein and Volkmar von Zühlendorff, NATO and the Defense of the West, p. 22. The Admiral quoted was Admiral Jerauld C. Wright, at that time Supreme Allied Commander, Atlantic. He resigned in 1960. If the interview had taken place more recently, I am sure the Admiral would have indicated "ships and submarines" to reflect the tremendous growth in Soviet naval power in recent years.

23. As listed by CPT Christer Fredholm (Royal Swedish Navy), in "The North Atlantic: The Norwegian Sea, A Scandinavian Security Problem", Naval War College Review, June 1972, p. 63.

24. Ibid., p. 60. The remaining three objectives listed are my own conceptions.

CHAPTER V

THE ROLE OF THE UNITED STATES ARMY: DEFENSE OF BASES IN THE NORDIC ARC

In the development of this paper, we have examined the growing importance of the Arctic Regions in world affairs, with particular emphasis on the strategic significance of the Nordic Arc; the current and potential interests of the Soviet Union and the United States in the Nordic Arc; and, we have concluded that - in the event of possible military action in this region - there is, indeed, a mission for the United States Army. That mission is to provide for the defense of those air and naval bases required to project our military power into the area of the Nordic Arc in the most efficient and economical manner. Logically, such bases must be located on the territory of our NATO allies - Iceland and Norway.

Though not as true in the United States, at least to the same degree, in recent years

...interest in the Far North has mushroomed in the NATO nations. This interest necessarily extends to strategic aspects of the northern regions and to questions pertaining to defense of sea routes and shore facilities on a frozen frontier.¹

The degree of interest among the NATO nations outside of the Arc has, perhaps, been highest in the case of Great Britain. This may be due both to their geographical proximity and to memories of the threat represented by enemy bases in Norway, or potential bases in Iceland,

during World War II. Britain seems to recognize the importance of the Nordic Arc more than any other NATO nation outside of the area. This concern is currently focused more on Northern Norway, perhaps on the unspoken assumption that the United States will again secure Iceland as was the case during the Second World War.

It has been suggested in the British Press that if SACEUR wants to give extra support to North Norway, then the British Government should be prepared to increase their present assignment of an AMF battalion and a Royal Marine commando equipped for Arctic warfare; this increase to be at least one brigade and another commando equipped for winter warfare.

There has been talk in the English newspapers about the 'great cost' of supplying British troops with winter clothing and equipment, and that it would be pointless to equip them with winter paraphernalia unless they get as much experience as possible in the Arctic region.²

This points up, then, several of the very special problems which must be overcome if the troops of any outside nation are to be used effectively within the Nordic Arc. Problems of equipment, training, and of environmental conditioning, all of which affect the capability of troops to function in the conditions peculiar to this area. Though the following words were written with reference to Northern Norway, they are equally applicable to Iceland.

There is probably no area in the whole of Allied Command Europe where climate and weather have a greater influence on military operations than in Norway, particularly in the North. The severity of winter conditions, especially on the plateau of Finnmark, is such that survival could surpass military operations in importance.... Unless troops are properly equipped and trained to live in this sub-zero environment, heavy non-

battle casualties will occur.³

If the climate and weather in these regions tend to inhibit military operations - except by troops with the proper equipment, training, and environmental conditioning - what of the terrain? Speaking of the terrain in Northern Norway,

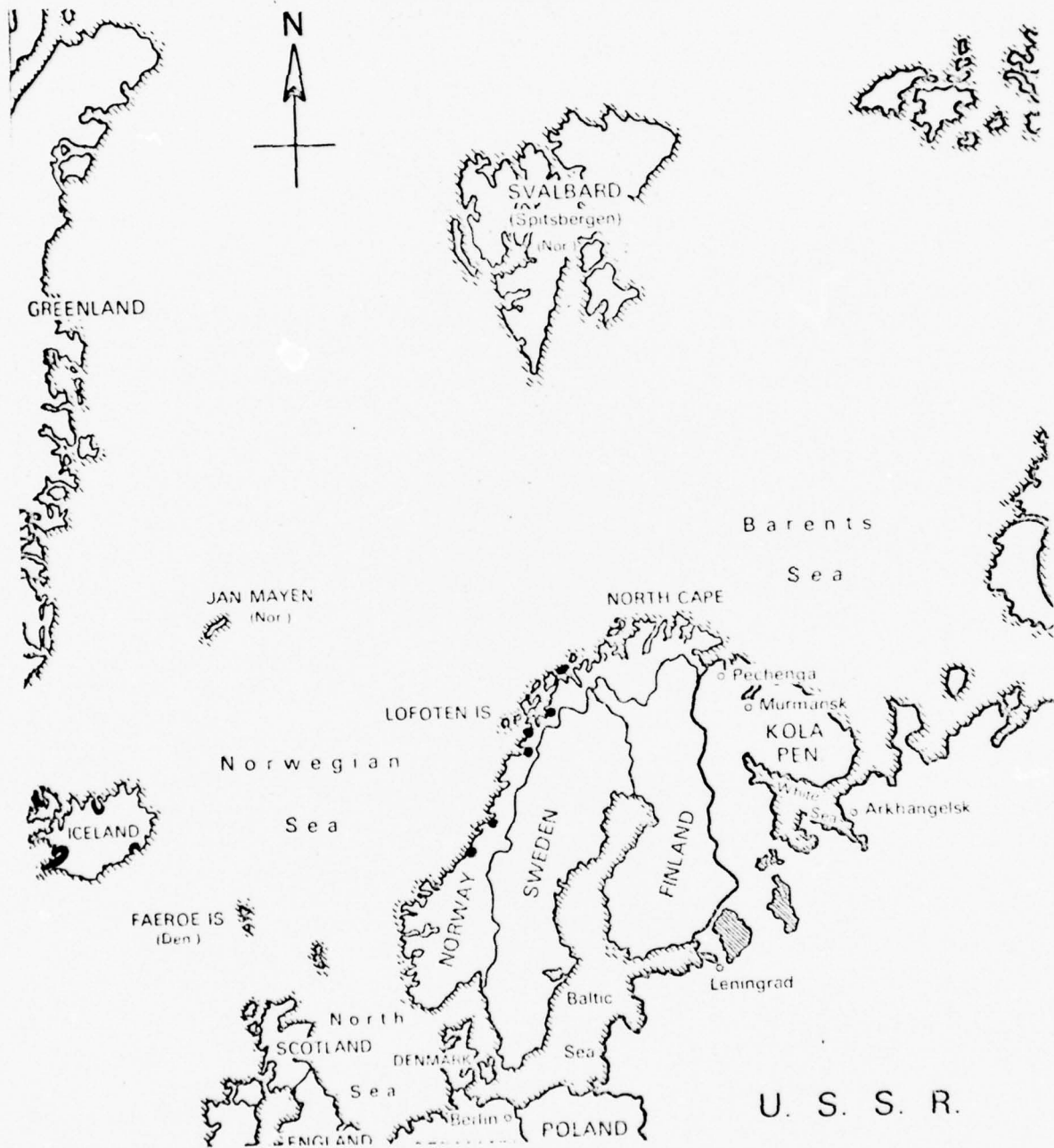
...anyone who visits there can only leave with the impression that this is defensible land. It channelizes attacking forces. It lends itself to strong mobile defense by dedicated, competent, well-equipped fast-moving forces.⁴

Again, though these words specifically concern the area of Northern Norway, the same observations would apply in the case of Iceland. In both areas, the terrain favors the defender.

Throughout large sections, the mainland coast itself is steep, mountainous, and forbidding. Only a few sections of the far-reaching coast are inviting gateways of invasion, and few of these have good lines of communication with the interior. The natural protection of these sectors of special military importance is of critical significance for defense. The control of the few larger ports and their approaches is an indispensable prerequisite to the military security of the country.⁵

An examination of the geography of Northern Norway indicates that there are relatively few areas which would require active defense under these criteria: Tromsø, a seaport just west of the natural barrier of Lyngenfjord (which was a German defensive line in World War II - never breached); Narvik, major seaport and western terminus of the railroad to Kiruna and Tornio in Sweden; Bodø, major NATO airfield and northern

KEY BASES IN THE NORDIC ARC



The ten key base areas in the Nordic Arc, four in Iceland and six in Norway, mentioned in the text are indicated in red.

terminus of the Norwegian State Railway; Mo i Rana, a town situated on the natural barrier of Ranenfjord and the Rana River and terminus of a road crossing the Kjolen Mountains to Sweden; Namsos and Trondheim, both important seaports.

A similar examination of Iceland would indicate four areas as meeting the criteria (in descending order of importance): the arc containing Keflavik-Reykjavik-Akranes in the southwest (this would include the NATO air base; the capitol, largest port, and second largest airport; and the former naval fuel depot at Hvalfjörður - as well as two-thirds of the total Icelandic population); Akureyri, a port on the north coast; Höfn, a port on the Hornafjörður in the southeast; and, Isafjörður, a port in the extreme northwest.

What ground forces are immediately available, on site, for their defense? In the case of Iceland, there are none. Iceland does not have an army of any sort. In the case of Norway,

...one active brigade in the North consists of picked men, and in the event of war it could rapidly be enlarged to divisional strength. Despite the difficult terrain, it is highly mobile. In case of attack, the Norwegian troops would quickly occupy their fortified positions in the hills and mountains.⁶

Though these troops are well-trained and increasingly well-equipped, it's most unlikely that they could turn back a Soviet attack. Rather, the strategy is to slow a Russian advance through the rugged Norwegian terrain. "...I can hold the important places long enough for reinforcements to arrive from Southern Norway or from NATO allies," says General Hamre, the northern commander.⁷

The initial NATO elements would probably be the units of the AMF,

the Allied Command Europe Mobile Force (sometimes called the ACE Mobile Force). This is a brigade-sized force made up of infantry battalions, and their supporting artillery batteries, from Canada, Britain, Belgium, Germany, and the United States - the latter using units based in Europe. This force has been equipped and trained for winter warfare in the Far North and carries out maneuvers in coordination with Norwegian Army forces every other year.⁸

The establishment of the AMF has certainly been a move in the right direction, as have the combined exercises in Northern Norway. But, much more is needed. There is, after all, only one AMF - there are two major areas to be defended: Northern Norway and Iceland.

...NATO's ability to respond to an incipient threat must be improved by increased emphasis on mobility, and further development of its political crisis management machinery. There has already been some progress with the ACE Mobile Force, the Standing Naval Force Atlantic, the Mediterranean "On-Call," and various contingency force concepts. But over and above such important "flag showing" efforts, NATO must be prepared to bring into play substantial combat reinforcements, particularly on the flanks, in the shortest possible time.⁹

This brings us to the crux of the situation: what is to be the source of these substantial combat reinforcements? The NATO nations on the continent of Europe will need to keep their forces on the central front or in their southern flank homelands - they can not afford to send additional units to the Far North. As noted earlier, the British have earmarked one Royal Marine Commando - they may be able to add a second and upgrade their AMF battalion to a brigade. The Canadians will be hard-pressed to fill their current commitments. This leaves but one

logical source for the substantial combat reinforcements required: that is, the United States.

Even here, we appear - at first glance - to be faced with a paucity of resources. The sixteen divisions in our Active Army forces appear to be committed for deployment to the Central Region of Allied Command Europe. They must be equipped and trained for such deployment. They are not available for the Far North, unless we weaken the U. S. commitment to the Central Region. This we are not prepared to do; in fact, we are even now searching for means to increase our land combat power in the Central Region - as witnessed by the Hollingsworth Report.

There is, however, one other source for the substantial combat forces which are required for the defense of Northern Norway and of Iceland: the United States Army Reserve Components. Within the current Army Reserve Components troop list, there are units which are not destined for roles in Central Europe and which do not have specific "special missions" within the Western Hemisphere. For the most part, these are units which might be described as constituting the "general strategic reserve" in the case of full mobilization. From this pool of units, we should be able to select, equip and train at least one infantry division and two infantry brigades for deployment to Northern Norway and Iceland, together with the necessary supporting non-divisional units.

In an article on winter warfare, published many years ago, one author suggested:

National Guard and Reserve units of the Northern States should receive winter clothing and

equipment to enable them to train their troops at least in the fundamentals of winter warfare. It is not necessary that their equipment be new. The purpose would be to give some winter training now, not when the war has started. It is too late then. These northern guardsmen and reservists are, in general, better motivated for winter training than the soldiers from the South. Therefore, they would make high quality units if given the opportunity.¹⁰

In the years since those words were written, some progress has been made. Winter clothing has been issued to Guardsmen and Reservists in the most northerly states. A relatively few units have been able to procure skis and/or snowshoes. Some other forms of winter equipment have been issued. But, there has been no overall policy of specific units being designated to become expert in the area of winter warfare. What has been accomplished has been largely due to the initiative of the unit commanders, as opposed to directives and policies at the Department of Army level.

The same author, in writing of Active Army training requirements, suggested that:

A permanent type of training center should be established in a Northern State where climatic and terrain conditions are suitable for winter training. This training center could be located either in Montana, Minnesota, Vermont, New Hampshire, or any other Northern State which has variable terrain and several months of severe winter weather. All troops stationed in the United States, excluding Alaska and Hawaii, could be rotated for duty to this training center. If that training is rough, realistic, and the personnel well-motivated, they would emerge from this phase as capable winter soldiers.¹¹

Certainly, the same principles apply to the Reserve Components.

In fact, the Reserve Components already possess the basic facilities required to establish such a center for training in winter warfare under conditions somewhat similar to those found in the Far North. With only minor additional improvements at modest cost, the National Guard training sites at Camp Ripley, Minnesota, or Camp Greyling, Michigan, or the Army Reserve sites at Fort McCoy, Wisconsin, or at Fort Drum, New York, could be utilized for such a center.

For the purposes of discussion in this paper, let us assume that the following major Reserve Component combat units could be made available and designated for possible deployment in the defense of Northern Norway and Iceland: the 47th Infantry (Viking) Division (National Guard - Minnesota and Iowa); the 32nd Infantry Brigade (National Guard - Wisconsin); and, the 205th Infantry Brigade (Army Reserve - Minnesota and Wisconsin). If one of these units currently has a deployment role, it could be relieved of that assignment and another unit from the "general strategic reserve" could be assigned in its place. Additional supporting units, as required, could be formed in the Army Reserve - if they do not already exist - with their home stations located in Northern Michigan, Wisconsin, and the Dakotas.

The selection of units in these specific geographical locations would offer a number of advantages. The individuals joining these units would, more often than not, be accustomed to the extremes of climate that are found in the more northerly states: deep snows, severe temperatures, and the darkness of winter. They would be more likely to

have developed some proficiency with skis and to have become accustomed to the isolation of the wilderness, such areas being somewhat common in these states. In addition, there is a fairly high probability that many of these individuals might feel an affinity toward the Nordic countries because of their cultural heritage - a psychological factor worth pursuing.

Basic winter warfare training could be offered to all units at the existing training site at Camp Ripley, Minnesota, where the Minnesota National Guard has already made a start in this direction. More advanced winter training and exercises - with an emphasis on "adventure training" featuring long cross-country ski marches and winter bivouacs - could be conducted in nearby areas with more challenging terrain, such as the Sawtooth Mountains in Northeastern Minnesota, Isle Royale in Lake Superior, or the Keweenaw Peninsula which juts into Lake Superior from the Northern Peninsula of Michigan. These areas would offer terrain more similar to that of Northern Norway and, to a degree, that of Iceland. This training could and should be challenging, rough, and realistic - designed to produce capable winter soldiers. Reserve Component soldiers will respond favorably to such training. This has been proven in the case of Reserve Component Special Forces units.

There is another aspect to this proposal which should be noted. In the Reserve Components, to a degree even greater than in the Active Army, there is a desire to be distinguished as "different" from the ordinary, to be something "special". Again, the experience with Special

Forces units illustrates this point clearly. The Reserve Component units selected for the defense of Northern Norway and Iceland should be recognized as being "special" and designated as "Ski and Mountain" units with the "Ski and Mountain" tab as part of the unit shoulder patch - thus clearly identifying the unit and assisting in building unit esprit.

A second factor in building motivation should be the creation of distinctive qualification badges. That is, we should...

Provide qualification badges for expert skiers and mountaineers. These badges are comparable to and in some cases more hazardous and difficult to attain than those currently authorized for vehicle driving, marksmanship, parachuting, rangers, and explosive disposal. These badges, which are common in European armies, would provide incentive, develop pride, and facilitate mobilization and peacetime assignments to the "Ski and Mountain" units.¹²

The final steps in motivation and in training could involve the use of the U.S. Army Mountain and Cold Weather School, at Fort Greeley, Alaska, for the training of selected individuals for further utilization as instructors, and for the integration of Reserve Component units in exercises carried out in Northern Norway. The Minnesota National Guard has already made some progress along both lines. These efforts should be expanded to include all of the units selected for this task and the unit exercises in Norway should be conducted on an annual basis for brigade-sized elements.

The exercises in Norway would do more than provide valuable training for the Reserve Components units concerned, more than provide an incentive for recruiting. Such exercises would provide proof

of our capability and of our intention to provide the necessary combat reinforcements to Northern Norway and combat troops to defend Iceland, when and if they should be required. This knowledge of our capability and our intention could provide an additional deterrent to "adventurism" on the part of the Soviet Union. It would certainly bolster the confidence of our allies - particularly the peoples of Iceland and Norway.

Examples of failures to prepare for northern operations can be found from the Napoleonic Wars to the Korean Conflict. We must not fail in the future. Adoption of a forward-looking, realistic program will ensure the Army's readiness to meet the challenge of operating in the Far North.¹³

CHAPTER V

FOOTNOTES

1. Anthony Harrigan, "NATO and the Far North", NATO's Fifteen Nations, February-March 1970, p. 19. Emphasis added.
2. General Sir Walter Walker (Great Britain), "Problems of the Defense of NATO's Northern Flank", Journal of the Royal United Services Institution, September 1970, p. 18.
3. Ibid., p. 14.
4. GEN Alexander M. Haig, Jr., Supreme Allied Commander, Europe, quoted in G. M. Bailly-Cowell, "Apprehension without Fear...An interview with General Alexander M. Haig, Jr.", NATO's Fifteen Nations, February-March 1976, pp. 21 - 22. Emphasis added.
5. CPT O. P. Araldsen (Royal Norwegian Navy), "Norwegian Defense Problems: The Role of the Navy", United States Naval Institute Proceedings, October 1958, p. 39. Italics in the original.
6. Prince Hubertus zu Löwenstein and Volkmar von Zühlendorf, NATO and the Defense of the West, pp. 241 - 242.
7. Kenneth H. Bacon, "Norway Hones Its Defenses as Much as Possible While Trying, as Finland Does, Not to Irk Russia", Wall Street Journal, 7 December 1976, p. 46. The General quoted is Lt. Gen. Sverre Hamre, Commander of forces in Northern Norway. Emphasis added.
8. The best recent article on the AMF is probably LTC Calvin H. Creasy, "A Perspective of the ACE Mobile Force", Military Review, November 1975, pp. 14 - 22.
9. Timothy W. Stanley, "A Strategic Doctrine for NATO in the 1970s", Orbis, Spring 1969, p. 96. Emphasis added.
10. LTC Erkki Lahdenpera, "Winter Warfare", Military Review, June 1960, p. 52. Emphasis added.
11. Ibid., pp. 51 - 52. Emphasis added.
12. COL Willard Pearson, "Alaska - Gibraltar of the North", Military Review, February 1961, p. 55.
13. Ibid., p. 56.

CHAPTER VI

THE NORDIC ARC: A SUMMARY

In the development of this paper, we first focused on the growing importance of the Arctic Region as a whole. It is an area which seems to have interested man since the very beginnings of recorded history; yet, it is an area which is only now coming into prominence. Although the visionary "Northward Course of Empire" has not yet fully materialized, improvements in the twin technologies of transportation and communication - and the more recent discoveries of vast deposits of the vital energy sources of oil and gas - have brought Stefansson's vision closer to reality than ever before. We are, indeed, on the verge of recognizing the once "frozen wasteland" of the Arctic Basin as the "new Mediterranean" of the world - with all of the consequences that such recognition may entail.

Narrowing our focus to that part of the Polar Region which now lies between the two Great Power Blocs, but is not controlled entirely by either one - the Nordic Arc - we discovered that within this area are the seeds of potential conflict between the Soviet Union and the United States. Both countries have major, perhaps even vital interests in this region: economic, psychological, political and military.

In the case of the Soviets, the Nordic Arc may well be the "Window to the West" - sought since the time of Peter the Great - through which their ever-expanding maritime power will permit them to exploit the

riches of the Soviet Arctic. Riches which will reach the markets of the world by means of the Northern Sea Route and routes through the Nordic Arc.

The Soviet Union is, today, the world's leading producer of the vital energy sources of oil, gas, and coal. Known reserves of coal and natural gas are the largest in the world. Additional oil and gas discoveries, most within or adjacent to the Nordic Arc, are being made with great frequency. Soviet efforts to expand the production of these energy sources could result in exportable energy surpluses. Such surpluses could well become the ultimate economic weapon. The export of these resources would depend primarily on maritime routes through the Nordic Arc. Such exploitation of energy sources would expedite the Soviet's "historically inevitable" domination of the world by means of unrelenting economic pressure.

Naturally, from the Russian point of view, the defense of these energy sources and the Northern Sea Route is of vital importance. The only logical approach for a potential enemy is through the Nordic Arc. Therefore, it may be just as logical - to the Russians - that control of key areas within the Nordic Arc, particularly Iceland and Northern Norway, is just as legitimate and necessary to their national security as the control of the countries of Eastern Europe.

If more drastic measures should appeal to the Soviet governing elite, this same Nordic Arc could well be the critical path for the Right Wing in a Soviet "Maritime Schlieffen Plan" designed to offer

them the safest, most economical means of militarily subjugating all of Western Europe. A Western Europe with its vast industrial base untouched by war, or nearly so. To execute such a plan, the establishment of Soviet air and naval bases in both Northern Norway and Iceland would be essential. It would appear to be quite within the current Soviet capabilities to seize such bases and present the West with a fait accompli. Such action, if unanswered, would mean the end of NATO and of democracy in Europe. We must be prepared to avoid such a contingency.

In the case of American interests in the Nordic Arc, there are psychological and economic interests, to be sure - the latter certain to increase greatly in importance should the search for offshore oil and gas north of 62° prove successful. However, our current interests more clearly reflect political and military concerns: maintaining the precarious "Nordic Balance" and the credibility of the NATO guarantee to defend both Iceland and Norway against aggression. The credibility of this NATO guarantee - that is, its deterrent value - depends in large part on our demonstrated capability to enforce that guarantee through prompt military action, if required. If the Soviets do not perceive such a capability, then the most serious of confrontations could occur.

Should such a confrontation occur and escalate to the possibility of armed conflict, it is most probable - given the geography of the Nordic Arc - that the dominant roles would be played by American air

and naval forces. Yet, for such forces to be effectively and economically employed within the Nordic Arc, there must be land bases available in Iceland and Northern Norway. The defense of such bases against Soviet attack would fall to the Army under its primary mission of sustained land combat. This, then, is the role of the Army in the Nordic Arc.

An examination of the climate, weather, and terrain indicates that the defense of these air and naval bases will require major combat units which have been specifically equipped and trained for winter warfare. Iceland has no combat forces. Norway's Army requires reinforcement. Such major combat reinforcements are not available from our existing Active Army troop list. All of our regular forces are required elsewhere in the NATO environment. Given our current fiscal and manpower constraints, the major combat forces required can come from only one source: that is our Army Reserve Component forces.

A review of the Army Reserve Components Troop List and the current planned deployments suggests that one division, two brigades, and the necessary supporting units could be made available for the defense of selected base areas in Iceland and in Northern Norway - the latter in coordination with Norwegian and, possibly, some selected units from the other NATO nations.

Therefore, it is recommended that action be taken immediately to: select the units concerned for such deployment; redesignate the units as "Ski and Mountain" units; provide them with the necessary equipment and training for winter warfare; and, most importantly, exercise those

units in a Nordic environment through periodic maneuvers.

The adoption and full implementation of these recommendations will allow our Reserve Components to make an increased contribution to the defense of the Free World through demonstrating - in the Nordic Arc - American determination and capability to defend against aggression on the northernmost frontiers of freedom. It will demonstrate our commitment to use our Strength in Reserve.

In view of its geographical position and its potential for the future, the Nordic Arc may well be one of the most vital areas in the world - for both the Soviet Union and the United States. It could be their path to world domination. It could be the last frontier of world freedom. We cannot permit it to fall under Soviet control. We must act and act now!

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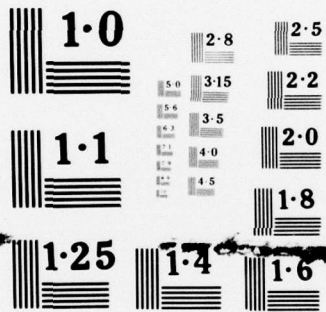
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