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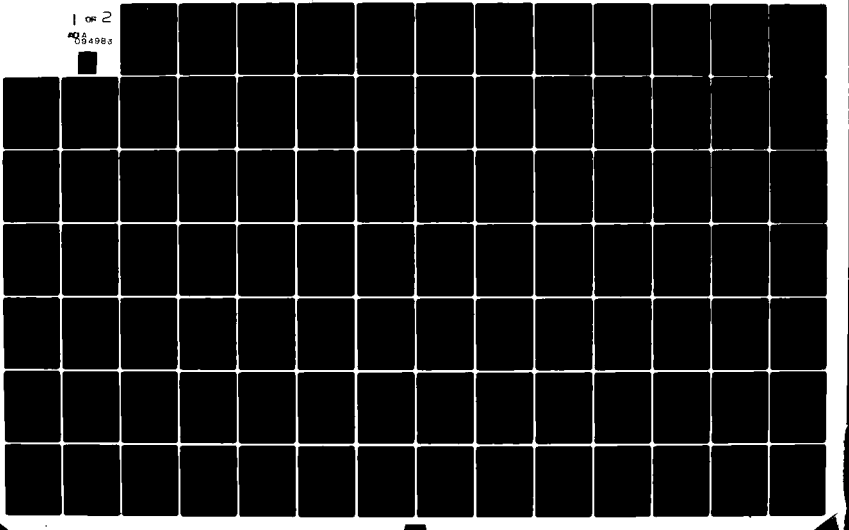

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# DEFENSE OF NORTH AMERICA DURING A NATO-WARSAW PACT CONFLICT: SOME IMPLICATIONS OF THE USSR'S POWER PROJECTION CAPABILITIES.

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

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This study attempts to determine whether or not the existing conventional military forces and defense systems in North America are adequate both to meet commitments to NATO in the event of a major European conflict and provide for continental security.

Investigation reveals that Canada is weakly defended relative to the capabilities of the USSR to project forces onto her territory. Thus, should the USSR choose to exploit this vulnerability by executing rear area military operations on the North American flank at the outset of a NATO-Warsaw Pact conflict, she could succeed in diverting crucial U.S. and Canadian reinforcements away from their primary missions on the battlefields of Europe.

Defense of North America During A NATO-Warsaw Pact Conflict: Some Implications of the USSR's Power Projection Capabilities

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ABSTRACT

DEFENSE OF NORTH AMERICA DURING A NATO-WARSAW PACT CONFLICT: SOME IMPLICATIONS OF THE USSR's POWER PROJECTION CAPABILITIES. by Major Joseph J. Trinca, Canadian Armed Forces, 115 pages.

This study attempts to determine whether or not the existing conventional military forces and defense systems in North America are adequate both to meet commitments to NATO in the event of a major European conflict and provide for continental security.

Investigation reveals that Canada is weakly defended relative to the capabilities of the USSR to project forces onto her territory. Thus, should the USSR choose to exploit this vulnerability by executing rear area military operations on the North American flank at the outset of a NATO-Warsaw Pact conflict, she could succeed in diverting crucial U.S. and Canadian reinforcements away from their primary missions on the battlefields of Europe.

TABLE OF CONTENTS

# CHAPTER I

## INTRODUCTION

Isolated from hostile powers and potential war zones by broad oceans and a vast polar wasteland, the U.S. and Canada have long enjoyed a sense of immunity from military attack. Although North Americans do recognize that this immunity would evaporate in a strategic nuclear war, they tend to regard such an irrational event as so remote that the possibility of it occurring does not upset their general sense of security.

Lodged in this seemingly secure geostrategic position, the U.S. and Canada have been inclined to view the protection of North America more in terms of defending vital security interests abroad than in repelling invaders on the beaches. In this regard, both countries currently view the security of Western Europe as their most vital defense interest overseas and have earmarked a major portion of their military forces for NATO contingencies. Having global interests, the U.S. also has forces designated for other contingencies in distant parts of the

world.[1] Significantly, neither country has demonstrated by its apportionment of forces, that it views continental defense as an immediate and high priority consideration in the event of a NATO-Warsaw Pact war. This could prove to be a fatal oversight in light of the wide range of strategic options the USSR is acquiring through her massive investment in military power.

The USSR has been engaged in a military buildup over the past fifteen years which spans the whole spectrum of military capabilities, including the projection of conventional forces overseas. The extent of this buildup is of such a magnitude that it is causing a dangerous shift in the East-West balance of power.[2] NATO is reacting to the threat in Europe by revitalizing its defenses there. The North American members of the Alliance, in particular the U.S., are bolstering their forward deployed forces in Europe and improving reinforcement response time.[3] The

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[1]U.S., Department of Defense, Report of the Secretary of Defense to the Congress on the FY 1980 Budget, FY 1981 Authorization Request and FY 1980-1984 Defense Programs (Washington, D.C.: Government Printing Office, 1979), pp. 9, 13-14, 97, 99. See also Canada, Department of National Defence, Defence: 1978 in Review, pp. 8-10.

[2]Colin S. Gray, "The Soviet Military Threat," Soviet Dynamics: Political, Economic, Military (Pittsburg: World Affairs Council of Pittsburg, 1978), pp. 69-73. See also The International Institute for Strategic Studies, The Military Balance 1978-1979 (London: IISS, 1978), p. 112.

[3]The International Institute for Strategic Studies, Strategic Survey 1978 (London: IISS, 1979), pp. 103, 106. See also IISS, The Military Balance 1978-1979, p. 113.

U.S. is seeking a counterweight in the Far East to the concentration of USSR military power in Europe by co-operating with the efforts of the People's Republic of China to build up her national power base rapidly and is encouraging Japan to improve her military capabilities.[4] Also, the U.S. is increasing her presence in the Persian Gulf to deter USSR expansion there and has warned the USSR that she will fight to protect her vital interests in the region.[5] Stressing the dangerous consequences of a U.S. and USSR military confrontation in the Gulf, the U.S. Secretary of Defense has warned that such a conflict could spread to Europe.[6] Curiously, in this atmosphere of urgency to improve military preparedness, there is no perceptible concern regarding the state of North American defenses.

Having thus committed themselves to fight the USSR and her allies in Europe and, in the case of the U.S. having announced her intention to counter USSR expansion in

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[4]IISS, Strategic Survey 1978, pp. 3-4, 73-74. See also Bruce Grant, "The Security of South-East Asia," Adelphi Papers 142 (Spring 1978): 14. And IISS comments on the 1979 Japanese White Paper on Defense in "Japanese Defence," Survival (January/February 1980): 31

[5]"Soviets Warned of Gulf War Risk," The Kansas City Star, 31 January 1980, p. 2. See also "Troop Shortfall Worries Allies," The Kansas City Star, 21 February 1980, p. 16.

[6]"Brown Warns Soviets on War in Gulf," The Kansas City Times, 15 February 1980, p. A2.

the Persian Gulf, it would seem prudent for the U.S. and Canada to ensure their own continent is secure before dispatching their expeditionary forces to distant shores. Indeed, in light of the current force projection capability of the USSR, it would be most unwise to assume that North America would enjoy the sanctuary status that existed in previous world conflicts.

The purpose of this study is to demonstrate that in the event of a major NATO-Warsaw Pact conflict, the existing conventional military forces and defense systems in North America are not adequate to meet commitments to and the expectations of NATO, while continuing to provide the degree of security needed by this continent. This thesis will be substantiated through an analysis of three interrelated aspects of East-West military capabilities. First, the nature of the Warsaw Pact threat and the defense needs of NATO will be examined to determine the importance of external reinforcements to the successful outcome of a European conflict. Second, the status of North America's defenses will be studied focusing on Canadian territory and considering joint Canadian and U.S. force capabilities and weaknesses. Third, the capabilities of the USSR to insert forces into Canada will be addressed with specific attention to the impact this might have on U.S. and Canadian intentions and capabilities to reinforce Europe.

The study will reveal that Canada is weakly defended relative to the capabilities of the USSR to project forces onto her territory. Thus, should the USSR choose to exploit this vulnerability by executing rear area military operations on the North American flank at the outset of a NATO-Warsaw Pact conflict, she could succeed in diverting crucial U.S. and Canadian renforcements away from their primary missions on the battlefields of Europe.

## CHAPTER II

## RAPID EXTERNAL REINFORCEMENT: A CRITICAL FACTOR IN THE DEFENSE OF WESTERN EUROPE

### The Shifting Balance of Power

Through her massive investment in military power, the USSR has eroded the NATO-Warsaw Pact balance. The emergence of rough equality in strategic nuclear forces between the U.S. and USSR has made less certain the deterrent value of the U.S. strategic nuclear commitment to Western Europe. The growth of USSR theater nuclear weapons has eliminated NATO's superiority in these systems and hence, has brought into question the effectiveness of another deterrent option. These developments, combined with the presence of superior Warsaw Pact conventional forces, offensively postured in Eastern Europe, has created an ominous situation for NATO. The Alliance is seeking to redress the balance. One aspect of NATO's revitalized defense efforts is a commitment by her North American members to increase the size and speed of reinforcements to Europe in an emergency. An analysis of this commitment indicates that the timely arrival of external reinforcements is a critical factor in NATO's forward defense plans.

The North Atlantic Treaty was signed on 4 April 1949. During the thirty year period since then, NATO has served its purpose well as a bulwark against USSR hegemony being extended into Western Europe. The fear and the necessity which gave rise to NATO had their origins in the turbulent aftermath of the Second World War. Western Europe was exhausted, its economies were disrupted and its societies were unstable.[7] While Western European armies had demobilized, the military forces of the USSR continued to dominate Eastern Europe. The aggressive nature of the communist movement in Western Europe and the intimidating presence of the powerful USSR armies nearby were the imperatives for collective security.[8] The Western European states were driven together in an alliance by an imminent USSR threat. However, the crucial factor which gave substance to their unity of purpose was a commitment by the U.S. to support their defense with her atomic weapons. At the time the U.S. was clearly the pre-eminent atomic power.[9] Circumstances changed and now thirty years later

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[7]Ken Booth, "Security Makes Strange Bedfellows: NATO's Problems from a Minimalist Perspective," Royal United Services Institute Journal (December 1975): 4.

[8]Sir Peter Hill-Norton, Admiral of the Fleet, No Soft Options: The Politico-Military Realities of NATO (London: C. Hurst & Co., 1978), pp. 2-3, 17.

[9]Richard Hart Sinnreich, "NATO's Doctrinal Dilemma," Nuclear Strategy and National Security Points of View, eds. Robert J. Pranger and Roger P. Labrie (Washington, D.C.: American Enterprise Institute, 1977), p. 306.

the USSR military threat to Western Europe has re-appeared as serious as it was in 1949.

In the past fifteen years the USSR has emerged from being exclusively a Eurasian land power to a position of global superpower. This has been achieved as a result of basic decisions taken during the period 1961-63. During that period she commenced a major long-term effort to build up her military forces and has assigned at least fifteen percent of her gross national product to this objective annually. She has since up-graded virtually every aspect of her military capability in quantity and quality and continues to make improvements.[10] In their assessment of her achievements, the U.S. Joint Chiefs of Staff state that the USSR has modernized her:

> "...ground forces with improved firepower, mobility, armor and air defense systems which meet or exceed the sophistication of similar U.S. systems. The Soviet Navy has grown dramatically in size and capability into an impressive blue water navy. The Soviet Air Force has developed into an offensive oriented force with long range, high payload capabilities."[11]

It is the assessment of strategic analyst Colin Gray that the USSR has at least matched the U.S. in strategic and tactical nuclear forces, while continuing to maintain her

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[10]Gray, "The Soviet Military Threat," pp. 65-67.

[11]The Organization of the Joint Chiefs of Staff, United States Military Posture for FY 80, supp. to "Chairman's Overview," Chairman of the Joint Chiefs of Staff (Washington, D.C.: Government Printing Office, 1979), p. 81.

pre-eminence in ground forces and homeland air defense.[12] This is decidedly a dramatic development in the East-West balance, but one which has only recently been perceived as alarming by NATO.

That this shifting balance did not arouse serious concern earlier, much less generate necessary counter measures, can be attributed to several factors. First, the significance of the USSR's steady military growth only came into perspective when seen as a cumulative package; second, detente and the prospects for arms control produced a sedative effect on Western leaders; and third, the U.S. experienced a lengthy preoccupation with war in Indochina and a period of introspection thereafter.[13] Now that Western concern is aroused, NATO is seeking to improve its security. However, the extent of USSR advances in the area of nuclear weapons has produced a fundamental change in the security equation and this is determining the nature of the NATO response.

## U.S. Strategic Deterrence and NATO

From the inception of NATO and extending into the 1960s, the ultimate consideration which deterred USSR encroachment on Western Europe was U.S. superiority in atomic and later nuclear striking power. This was the basic

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[12]Gray, "The Soviet Military Threat," p. 85.

[13]Ibid., pp. 65-67, 85.

framework into which the rest of the NATO defense posture fitted. Regardless of what other weaknesses existed in the East-West balance, this superiority served as the ultimate fallback for NATO. There is good reason to believe that the framework is crumbling. This has occurred as a result of the USSR's enormous nuclear weapons program, which eliminated the clear dominance of the U.S. in these weapons by the late 1960s and which continues to erode the tenuous balance existing today.[14]

It is becoming increasingly common for analysts of U.S. security policy to perceive that given her own vulnerability, the U.S. can no longer afford to assure the defense of Europe by the application of her strategic nuclear firepower against the USSR.[15] Indeed, one assessment suggests that SALT II, which codifies parity between the U.S. and USSR in strategic weapons, is perhaps tacit confirmation of that development.[16] As observed by John Collins, when it comes right down to the fundamental issue of survival, the USSR could attack Western Europe without directly endangering the ultimate survival of the U.S.[17]

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[14]Ibid., p. 71.

[15]Seyom Brown, "An End to Grand Strategy," Foreign Policy 32 (Fall 1978): 32.

[16]Gregory F. Treverton, "Nuclear Weapons and the Grey Area," Foreign Policy 57 (Summer 1979): 1076-1077.

[17]John Collins, American and Soviet Military Trends Since the Cuban Missile Crisis (Georgetown: The Center for Strategic and International Studies, 1978), p. 335.

By implication, the expansion of a conflict in Europe to the strategic level would put that survival very much in jeopardy.

Henry Kissinger has publicly addressed the agonizing dilemma created by strategic parity and the implications of continued U.S. reassurances to Europe of her undiminished commitments. Although having uttered such assurances himself, he warns:

> "And my successors have uttered the same reassurances and yet if my analysis is correct these words cannot be true, and if my analysis is correct we must face the fact that it is absurd to base the strategy of the West on the credibility of the threat of mutual suicide....And therefore I would say, which I might not say in office, the European Alliance should not keep asking us to multiply strategic assurances that we cannot possibly mean, or if we do mean, we should not want to execute, because if we execute we risk the destruction of civilization."[18]

While the U.S. continues to back European security with her strategic nuclear deterrent,[19] it has become vitally important for the NATO Alliance to acquire the means for credible defense which does not rely on the awesome strategic option.

## Theater Nuclear Weapons

Theater nuclear weapons have played a major role in NATO's defense posture, since the introduction of tactical nuclear weapons to Europe in the mid-1950s. During the

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[18]Henry A. Kissinger, "NATO: The Next Thirty Years," Survival (November/December 1979): 266.

[19]DOD, Report to Congress for FY 80, p. 12.

period when the USSR was grossly inferior to the U.S. in all aspects of nuclear military power, these theater systems served as a potential equalizer for NATO forces against the much larger Warsaw Pact armies. The U.S. and NATO strategy of coupling these theater systems to the U.S. strategic nuclear systems through an escalation process served as a formidable deterrent.[20] If indeed, the U.S. were unable or unwilling to escalate to the strategic level, then the European based NATO deterrent would have to stand on its own.[21] However, the USSR's massive investment in nuclear weapon fighting systems has now brought her to a position of superiority in theater-nuclear options. As a result, NATO has been forced to seek improvements to its nuclear weapons posture in Europe, in order to match the new USSR capability in range, accuracy and destructive power.[22] To this end the Alliance arrived at an agreement in late 1979 to acquire and station in Europe some 600 ground launched Cruise and Pershing II nuclear missiles. However, these systems are unlikely to be deployed before 1985 at the earliest.[23]

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[20]Sinnreich, "NATO's Doctrinal Dilemma," p. 306.

[21]Booth, "Security Makes Strange Bedfellows," p. 6.

[22]Michel Howard, "The Forgotten Dimensions of Strategy," Foreign Affairs 57 (Summer 1979): 986. See also IISS, Strategic Survey 1978, pp. 10, 109.

[23]"NATO Plan May Deter War," The Kansas City Times, 14 December 1979, p. 18A.

In addition to the inequitable distribution of nuclear firepower, there are other important factors to be considered in the NATO and Warsaw Pact theater nuclear equation. Looking at the potential battlefield from the purely military aspects of terrain, manpower, equipment and doctrine, the Warsaw Pact forces appear to have significant advantages. First, on a nuclear battlefield, room for dispersion and maneuver plays an important role in survival. The NATO battle zone has much less depth to it than that of the Warsaw Pact, hence NATO forces are relatively more vulnerable to destruction. However, NATO forces would gain an advantage, if they could halt and target Warsaw Pact forces when they are concentrated in an attack. Second, the nuclear battlefield is a casualty intense environment. Since they possess much larger forces, the Warsaw Pact armies have a greater capacity to accept mass casualties and continue the fight. Third, Warsaw Pact tanks and other armored vehicles include design characteristics to enhance crew survival in a nuclear environment. Those on the NATO side do not. Fourth, Warsaw Pact doctrine and training stresses nuclear battlefield fighting. NATO forces are now oriented to fighting in a conventional mode.[24] Considering these features of the two forces, along with

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[24]Augustus R. Norton, "NATO and Metaphors: The Nuclear Threshold," Naval War College Review (Fall 1978): 71-72. See also Wolfgang Heisenberg, "The Alliance and Europe: Part 1: Crisis Stability in Europe and Theater Nuclear Weapons," Adelphi Papers 96 (Summer 1973): 8-12. And Sinnreich, "NATO's Doctrinal Dilemma," p. 309.

Warsaw Pact advantage in theater nuclear firepower, it would appear not to be in NATO's best interest from a military point of view to deliberately escalate a conventional battle to a nuclear one.

As well as the military aspects of a European battlefield which do not favour NATO in a theater nuclear war, there are political considerations which weigh against a decision to escalate a conflict to the nuclear level. War plans often tend to be conceived largely in the dimension of troops and firepower. However, it remains a political decision to execute such plans. For NATO, the decision as to when, where and how to use tactical nuclear weapons has apparently been kept vague deliberately to complicate Warsaw Pact planning. Once a conflict has started, the decision to employ them will require consultation among member countries.[25] It could be expected that European leaders would have very great difficulty in reaching such a decision.

European leaders clearly recognize that the USSR has the capability to respond to NATO's first use and that response could lead to a devastation of much of Western Europe. Even if the use of nuclear weapons by NATO were to be limited to military targets on the optimistic assumption that the USSR would conform to such a restraint, what then constitutes a military target? The USSR could well decide

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[25]Collins, American and Soviet Military Trends, p. 349.

that the great ports of Europe, many urban areas that serve as key communications centers and cities adjacent to war reserve stocks are appropriate military targets for quick destruction. With only a hazy concept of victory that might accrue from a nuclear war, uncertainty about public concensus in support of the awful decision and a doubtfulness as to whether their countries have the social cohesion to survive the aftermath, European leaders could be expected to procrastinate. If after twenty years of flexible response strategy, they have been unwilling to raise citizen armies of the necessary size to provide for their own defense, would they suddenly acquire the concerted will to impose the sacrifices of nuclear war upon their people?[26]

Given the increasingly common perception that the U.S. might be unwilling to make the ultimate sacrifices involved in deliberately escalating a battle in Europe to the strategic level; given an uncertainty about West European leaders having the concerted will to risk the dreadful consequences; and given the current advantages the Warsaw Pact would enjoy in a theater nuclear war; there is considerable reason to believe that the NATO alliance might not be able to achieve the necessary consensus to initiate first use of nuclear weapons in the hope that this might halt a Warsaw Pact attack.

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[26]Howard, "The Forgotten Dimension of Strategy," pp. 983-984.

Whether the Warsaw Pact would employ nuclear weapons to support an attack into Western Europe or rely on its superior conventional firepower cannot be determined with certainty. A comprehensive study of USSR doctrine published in 1976 concluded that despite a variety of points of view in the USSR on this matter: "An in-depth, massive, surprise, nuclear strike, in conjunction with an immediate, high-speed air and ground exploitation, is still the dominant Soviet concept for war against NATO."[27] However since then, there appears to have been a perceptible change in the nature of Warsaw Pact training exercises and military writings. Although the Warsaw Pact forces continue to be structured for a short, fast-moving war centered on the tank and continue to maintain a balanced conventional/nuclear capability, they now emphasize the use of conventional rather than nuclear firepower to open gaps in NATO defenses for the swift passage of assault forces.[28]

This change in emphasis may well come from a Warsaw Pact estimate that NATO defenses in certain sectors are very vulnerable. They may consider that by executing a swift, violent conventional attack which concentrates on a narrow front, they could quickly break through weak points and thereafter, maintain such a rapid pace of advance that

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[27]Joseph D. Douglass, The Soviet Theater Nuclear Offensive, Vol. 1 (Washington, D.C.: Government Printing Office, 1976), p. 4.

[28]JCS, US Military Posture for FY 80, p. 21.

they could achieve their objective before NATO could organize itself for a nuclear campaign.[29] NATO is clearly concerned about such a low risk option being available to the Warsaw Pact.

## NATO's Conventional Defense Posture

NATO continues to rely on the viability of its nuclear firepower if ultimately needed. However, the current emphasis is on quickly getting sufficient forces into battle positions, conventionally postured, so that they can repel any Warsaw Pact attempt to execute a quick conventional attack. As explained by the U.S. Joint Chiefs of Staff:

> "NATO leaders and commanders do not base their defense planning on the certain use of nuclear weapons. Therefore, the size, capability, readiness and disposition of conventional NATO forces are of fundamental importance to NATO as a whole, and to the United States in particular. The crucial test for NATO's conventional forces is their initial defense capabilities. It is vitally important that any attack into Western Europe be stopped quickly, and with minimum loss of territory, so that counter offensives can be initiated to destroy or repel the invading force, recover the territory taken, and restore the original boundary."[30]

The critical problem for NATO is that it lacks sufficient forces in certain areas along the East-West demarkation line and thus may not be able to conduct a successful forward defense everywhere.

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[29]Gray, "The Soviet Military Threat," p. 78.

[30]JCS, US Military Posture for FY 80, p. 11.

## The Warsaw Pact Conventional Force Threat

It is extremely difficult to measure the overall balance between NATO and Warsaw Pact forces by comparing manpower, combat units or equipment across the total line of demarkation from Norway to Turkey. While one is superior in one respect, the other has advantage in another.[31] However, what has become clear to senior NATO military leaders is that the extensive improvements recently seen in Warsaw Pact military strength and offensive capabilities in the crucial central region seriously threaten NATO's thin margin of defense there.[32] While the northern and southern flanks of Europe are areas of serious concern to NATO planners, it is the central region astride the German border which is the focal point for defense planning. This results from Germany's geostrategic position and the fact that the Warsaw Pact has concentrated both its strategic plans and forces in that area.[33]

In a very alarming assessment of this threat, Colin Gray states that:

> "Theater-wide 'bean counts,' however, (total NATO soldiers, tanks, artillery pieces and so forth) obscure the fact that NATO is critically, if not

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[31]IISS, The Military Balance 1978-1979, p. 113.

[32]JCS, US Military Posture for FY 80, p. 10.

[33]Federal Republic of Germany, The Federal Minister of Defence, White Paper 1979: The Security of the Federal Republic of Germany and the Development of the Federal Armed Forces, p. 116.

> fatally, weak in North Germany. Even if one can demonstrate that NATO's Central Army Group (CENTAG) could 'hold' in the southwest of Germany, it is really beyond the skill of any scenario designer to show how NATO 'holds' in the north." (Northern Army Group, NORTHAG)[34]

Gray's assessment is based primarily on the USSR's current deployment of thirty-one divisions in East-Central Europe which have some 10,500 tanks and are supported by 900 offensive aircraft. While this is a peacetime deployment, these forces are postured for offensive action. What makes these forces particularly significant is that the bulk of them are stationed opposite Northern Germany, the most weakly defended section of the NATO central front. The number of USSR divisions and aircraft are overwhelmingly superior to the NATO forces opposite them. The size of these USSR forces by themselves is impressive, but if other divisions positioned in western regions of the USSR are added on, as well as those of her allies in neighbouring Warsaw Pact countries, the imbalance in the north is startling.[35]

There is concern in NATO that with little warning, the bulk of these forward deployed USSR forces might be employed in a blitzkreig type attack against narrow sectors of the Northern German front, while stronger NATO forces elsewhere are kept under sufficient pressure that they are precluded from redeploying in time to block a breakthrough

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[34]Gray, "The Soviet Military Threat," p. 74.

[35]Ibid., pp. 78-79.

in depth. Such a maneuver might lead to an unravelling of NATO's forward line of defense before a more coherent posture could be established.[36] The success of the German blitzkreig offensive through the thinly defended Ardennes in May 1940 was a lasting lesson in the application of Field Marshal von Moltke's dictum: "One fault only in the initial deployment of an army cannot be made good during the whole course of a campaign." Indeed, faulty allied deployments in France enabled the fast moving German armored columns to break through to the English Channel in only ten days. Allied defenses in France collapsed almost immediately thereafter.[37] To avoid a similar disaster in a NATO-Warsaw Pact conflict, NATO must provide itself with more solid initial defenses in some sectors.

## The NATO Long Term Defense Program

NATO conducted a comprehensive defense review in 1977 in response to the enormous increase in military capabilities being acquired by the USSR, and in recognition of the fact that the era was now passed, when Western Europe could count on the superiority of U.S. strategic forces to make up for weaknesses in the Alliance's defenses. This review

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[36]Ibid., pp. 77-78.

[37]Alistair Horne, To Lose a Battle: France 1940 (Harmondsworth, Middlesex, England: Penguin Books Ltd., 1979), pp. 229, 657-658. See also Theodore Ropp, War In The Modern World (New York: Macmillan Publishing Co. Inc., 1979), pp. 318-319.

covered the whole East-West balance in air, land and sea power. In May 1978 the government leaders of the Alliance gathered in Washington, to make decisions on how to counter the threat revealed by the defense review. They decided to endorse a ten to fifteen year plan which would upgrade NATO's defense posture at an estimated cost of 80 billion dollars and would involve a three percent annual increase in each member's defense spending.[38] The Long Term Defense Program, to which they committed their countries, seeks to correct the worst imbalances by making improvements in ten key areas.[39]

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[38]Brown, "An End to Grand Strategy," p. 32.

[39]IISS, The Military Balance 1978-1979, p. 113. The 1978 NATO LTDP measures include the following:

1. Short-term readiness, including rapid outloading of ammunition and chemical protection.
2. Rapid reinforcement by U.S., UK and Canadian Strategic Reserves, including the use of civil air and sea lifts and the addition of three sets of divisional equipment for U.S. reinforcements in Europe.
3. Increased reserves and improved mobilization techniques.
4. Co-operative measures (including command, control and communications) at sea and national naval force increases, particularly in ASW, mine-warfare and defence against air and surface attack.
5. Air defence integration and qualitative improvement.
6. Command, Control and Communications.
7. Electronic Warfare improvement on land, at sea and in the air.
8. Logistics, including an improvement in war reserve stocks and greater alliance co-ordination of logistic support.
9. Rationalization of the research, development and production of armaments in the direction of standardization and interoperability.
10. Theatre nuclear modernization.

By these improvements NATO intends to close gaps in its defenses and make more efficient use of existing resources. Emphasis is placed on improved response time against a short warning attack, defense against air attack and protection of sea routes.[40] For the purpose of this study, focus will be placed on the time critical requirement of getting North American based forces rapidly into forward battle positions in Western Europe.

## Commitments by the U.S. and Canada to Rapidly Reinforce Western Europe

The NATO region is the primary area of concern in U.S. foreign policy and countering the growing Warsaw Pact threat to Europe is considered by U.S. security policy makers to be both essential and urgent. The U.S. President affirmed U.S. intentions in this regard following the May 1978 Alliance summit meeting, when he stated that: "The U.S. is prepared to use all the forces necessary for the defense of the NATO area."[41] The U.S. Secretary of Defense has emphasized that:

> "What must therefore concern us first and foremost is the heavy concentration of Soviet forces in Eastern Europe and the western military districts of the USSR.... They define the magnitude of the largest and most serious non-nuclear contingency that could confront us in the foreseeable future."[42]

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[40] Ibid.

[41] DOD, Report of Congress for FY 80, p. 47.

[42] Ibid., p. 13.

With the emphasis now on ensuring an adequate conventional defense to halt a Warsaw Pact attack, the size of U.S. forces required in Europe at the outset of a war is very large indeed.

The U.S. Joint Chiefs of Staff estimate that in any major conflict in Europe in the foreseeable future, the U.S. would have to apply virtually all its force capabilities to help ensure a favorable outcome. Moreover, they observe that the extent of this commitment to NATO would be such that only economy of force measures would be possible to protect U.S. interests elsewhere.[43] While U.S. nuclear firepower has been the essential backbone of NATO in the past, it appears now that the cohesion of the Alliance and deterrence of Warsaw Pact aggression has come to depend on the U.S. commitment of very large rapid reaction conventional forces.

To help close the critical gaps which exist in U.S. military readiness and in NATO's conventional military posture, the U.S. has embarked on major programs to improve her capabilities consistent with the objectives of the Long Range Defense Program. Indeed, the programs are so substantial that they provide for almost the entire U.S. Active Army, less elements already positioned outside the U.S. to be deployed to Europe in the early stages of a NATO-Warsaw Pact conflict. These programs include both

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[43]JCS, US Military Posture for FY 80, p. 14.

increases to existing U.S. military capabilities in Europe and much more rapid reinforcement of that area in a crisis.

Among the major Army programs to enhance its forward deployed capabilities, now completed or underway, are the assignment of an armored brigade to the North German plain, the addition of 47,000 anti-tank missiles to NATO's inventory, the addition of two artillery battaltion equivalents, and the pre-positioning of three additional sets of divisional equipment and supplies in Germany by 1982. The U.S. Air Force has improved its forward capability as well, by adding four more F-111 squadrons and one A-10 wing to its forces positioned in the United Kingdom.[44]

To improve U.S. capabilities to rapidly launch a massive expeditionary force to Europe in an emergency, an extensive upgrading of strategic mobility is underway. As indicated in the U.S. Secretary of Defense Report to Congress for Fiscal Year 1980:

> "The objective of our mobility programs is to be able to double our in-place ground forces in about ten days by FY 1982 and to deploy the remaining active divisions at a rapid rate thereafter. We also plan almost a fifty percent increase in the rate of deployment of tactical fighter forces."[45]

The new U.S. rapid reinforcement commitment involves the deployment of five divisions in ten days along with sixty tactical air squadrons. The previous commitment was one

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[44]DOD, Report to Congress for FY 80, p. 47.

[45]Ibid., p. 201.

division in the same period of time, plus forty squadrons.[46] Although deployment timings for the remaining active divisions is not indicated, the emphasis is on getting them to Europe rapidly.

This rapid reinforcement plan would be highly complex to execute and must rely on the successful functioning of a number of critical support arrangements. Among the key ones are the adequacy of strategic airlift, the availability of pre-positioned equipment and supplies in theater, the efficient functioning of many host nation support arrangements and the availability of 600 ships which allied countries have committed to carry essential sustaining supplies to Europe.[47] Whether a deployment of this magnitude could be conducted in the time frame envisaged may be arguable, but this is the intention. Should a European crisis require it, the U.S. is committed to deploy its Active Army to Europe as rapidly as possible.

Addressing the "widespread opinion" that increased Warsaw Pact capabilities could allow it to attack with little warning and rapidly overwhelm NATO defenses, the U.S. Secretary of Defense suggests that such a point of view is too pessimistic. He believes that NATO would acquire adequate warning. Moreover, he believes that planned improvement by the allies in Europe, along with the

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[46]IISS, The Military Balance 1978-1979, p. 113.

[47]Association of the United States Army, "Strategic Mobility: Can We Get There From Here - In Time," Special Report (1979), p. 1.

arrival of U.S. reinforcements give Western Europe "high confidence of success."[48] Clearly, the decision to increase the number of reinforcing divisions by a factor of four and tactical airforces by fifty percent within the first two weeks, indicates that these forces would play a crucial role in achieving that success.

Canada's concern over the growth of USSR military power parallels that of the U.S. Moreover, she has indicated her intention to accelerate the deployment capabilities of her reinforcement forces to Europe. Several months after the May 1978 NATO decision to launch the Long Term Defense Program, the Canadian Government announced that it was assigning to its Special Service Force the task of carrying out Canada's commitment of a brigade sized force to reinforce North Norway. This is a balanced force of combat arms and support services. Canada's Chief of the Defence Staff indicated that this rapid reaction force would be able to respond fast enough to get to Norway before an outbreak of hostilities. In addition to this Army contingent, Canada would deploy two tactical airforce squadrons and a helicopter contingent in support of this reinforcement commitment. Norway would provide shipping and other support to facilitate a rapid deployment.[49]

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[48]DOD, Report to Congress for FY 80, pp. 16, 104.

[49]Canadian Institute of International Affairs, "The Events of November 1978," International Canada (November 1978), p. 246. See also Canadian Institute of International Affairs, "The Events of January 1979," International Canada (January, 1979), p. 14.

In the event of an emergency, Canadian forces now forward deployed in Germany receive augmentation to bring them up to wartime strength. The size of the mechanized brigade group increases by fifty percent and the capability of the three tactical air squadrons increases by one-third. In both instances, equipment is prepositioned.[50] This initial commitment to the defense of North and Central Europe represents the major part of Canada's operationally ready Army and Airforce.

With her strategic and tactical nuclear forces now second to none, the USSR has acquired increased flexibility to use her conventional forces in pursuit of national interests. Accordingly, NATO views the presence of very large USSR forces, poised offensively in a key geostrategic location in Eastern Europe as a direct and immediate threat. To redress the conventional force balance in Central and Northern Europe in a crisis, NATO now relies on a very rapid transfer of military strength from across the Atlantic, into Western Europe's forward line of defense. While such a timely maneuver might well succeed in blunting an attack by the USSR in Europe, it is essential to examine the implications which this mass exodus of military power has on the security of North America.

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[50]U.S. Army Command and General Staff College, Interoperability of British, Canadian, German, and U.S. Forces, Reference Book 100-3 (Fort Leavenworth, Kansas: USACGSC, 1979), pp. 8-5, 8-15.

## CHAPTER III

## VULNERABILITIES IN NORTH AMERICA'S DEFENSES

### An Impression of Security

North America is the critical support base from which Western Europe is to receive a major infusion of military strength in a NATO emergency. The timely arrival of the U.S. and Canadian expeditionary forces is expected to be decisive in deterring or, if necessary, halting a Warsaw Pact attack. Therefore, it is sound military strategy to ensure that the base from which these crucial forces are to be launched is itself secure. If that were not the case, this essential trans-Atlantic maneuver might be put in jeopardy.

The impression is that the North American base is indeed secure from conventional attack. In his Fiscal Year 1980 Report to Congress, the U.S. Secretary of Defense addresses a number of "Vulnerabilities and Needs" in the global defense posture of the U.S.[51] Since conventional defense of North America is not listed as a problem, it can be assumed that such defense is now adequate. A comment in a recent Canadian Government publication reflects that country's confidence that a state of security exists:

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[51]DOD, Report to Congress for FY 80, pp. 17-19.

> "The probability of attack by conventional armed forces on the Canada-United States region of NATO is remote, and is likely to remain so, provided that Canada and the United States maintain sufficient forces in this region to deter a potential aggressor. The level of forces which may be tasked for the territorial defense of the region is reviewed annually and is co-ordinated within NATO through the Canada-United States Regional Planning Group."[52]

The extent to which this confidence continues to be valid must be determined in light of changed circumstances, which require larger North American contingents to be dispatched overseas more quickly than in the past and which include a substantial increase in USSR force projection capabilities.

This study of continental security will focus on Canadian territory only. This limitation is based on an assumption that the superpowers would wish to avoid expanding a European war onto one another's homelands. By violating U.S. territory with conventional forces, the USSR would risk a quantum jump to the strategic level. However, it is assumed that while limited conventional attacks on Canada would pose serious concern for the U.S., thus distracting her from Europe, they would not warrant a strategic response.

For the USSR to be able to distract the U.S. from Europe by attacking the U.S. flank, there would have to be gaps in Canada's defenses and a USSR capability to project

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[52]Canada, Defence: 1978 in Review, p. 8.

sufficient forces through those gaps that they would create a dangerous situation beyond Canada's control. With that in mind, the air and sea defenses of Canada will be examined to determine their vulnerabilities. Then, the land forces will be examined to determine what resources exist to counter hostile forces which might succeed in breaching the air and sea barriers. The capabilities of the U.S. to reinforce Canada's defenses are included in the assessments. The capabilities of the USSR to exploit existing weakness in continental defense are the subject of the following chapter.

## Continental Defense is a Joint Enterprise

Geographically, Canada occupies over 3.8 million square miles across the upper half of North America and is second only in size to the USSR. Surrounded on three sides by oceans, it has the longest coastline in the world.[53] When orienting on Europe to the east, where the NATO sea and land battles would occur, she can be viewed as covering the northern flank of the U.S. When orienting directly on the USSR over the North Pole, Canada forms a 3,000 mile buffer between the superpowers. It is a formidable challenge to control and defend such a large land mass and its coastal waters.

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[53]CIIA, International Canada: The Events of January 1979, p. 14.

While Canada clearly emphasizes her sovereignty in territorial defense,[54] nevertheless, her defense effort is either integrated with U.S. defense systems or to some extent worked out in concert with the U.S.[55] Accordingly, when looking at the military manpower and equipment available to deal with any foreseeable intrusion of Canadian airspace, coastal waters and national territory, the capability of the U.S. to intervene needs to be included in the equation.

The North American Air Defense Agreement (1958) leading to the creation of the North American Air Defense Command (NORAD) remains the most significant aspect of integrated continental defense. Visibility over Canadian airspace is maintained by a complex of joint radar and communications systems and provision continues for U.S. based NORAD interceptors to conduct air defense operations over Canada. Today Canadian Forces personnel man the Canadian based surveillance system and Canadian aircraft patrol Canadian airspace. ICBM detection and protection is a U.S. unilateral operation separate from NORAD.[56] In sea defense, Canadian maritime air and naval units co-operate closely with their American counterparts in both the NATO

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[54]Canada, Defence: 1978 in Review, p. 11.

[55]Melvin A. Conant, "A Perspective on Defence: The Canada-United States Compact," Behind the Headlines, (Toronto, Canadian Institute of International Affairs, 1974), p. 4.

[56]Ibid., pp. 5, 19, 29-30.

context for control of the North Atlantic and in the continental context for protection of Atlantic and Pacific coast areas. Continental defense agreements provide for Canadian operational control over joint naval operations in Canadian waters.[57] For ground defense, there is an agreement for modest sized joint operations in Alaska and the Canadian North in the event of USSR probes there.[58]

Thus, while there is no fully integrated North American defense system comparable to the NATO structure in Europe, there is integrated air defense and provision is made for combined operations to repel incursions into Canadian waters and onto Canadian territory. Clearly, any USSR military operations on the Canadian flank would be of immediate concern to the U.S. Where such activity was beyond Canada's capability to resolve herself, it would be consistent with NATO and continental agreements for the U.S. to lend assistance.

## Air Defense Over Canadian Territory

As indicated, the surveillance and protection of Canadian airspace is conducted through the NORAD system. However, that system has serious deficiencies both in its ability to provide assured detection and, if need be, to intercept and destroy hostile aircraft. During the 1950s

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[57]Canada, Defence: 1978 in Review, pp. 37-38.

[58]Conant, "A Perspective on Defence: The Canada-United States Compact," p. 26.

and 1960s, when there was serious concern about a USSR bomber threat against North America, substantial defense was provided by the NORAD complex of early warning radars, command and control systems, large fighter interceptor forces and surface-to-air missile sites. However, when the USSR de-emphasized bombers and invested in ICBMs, the resources assigned to NORAD were cut drastically.[59]

In the early days, three echelons of radar draped the most direct route over the North Pole and down to the U.S. These warning facilities included the 81 Distant Early Warning (DEW) stations stretching in a belt from the Aleutians to the Atlantic. Behind these lay the Mid-Canada and Pine Tree Lines. The gaps and flanks were filled in by gap-filler radars, U.S. Navy picket ships, Texas Towers, and airforce early warning aircraft. As a result of reduced concern about bombers, the picket ships, Texas Towers, gap-filler radars and Mid-Canada Line have been eliminated. To a large extent the surveillance technology used in the system today is twenty years old. While the DEW system continues to detect high flying aircraft out to about 200 nautical miles, its capabilities at low level are less reliable. In fact, at present the DEW facilities, including the Greenland-Iceland-UK extensions could be easily by-passed unless augmented by airborne patrols which

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[59]Collins, American and Soviet Military Trends, p. 133.

currently operate on call. The Pine Tree Line has weaknesses as well, in that its long-range radar surveillance has significant gaps particularly at low altitudes.[60]

To provide improved surveillance in the 1980s, the U.S. is experimenting with Over-the-Horizon Backscatter (OTH-B) radars. After technical problems are overcome, it is intended to position one OTH-B radar site on the east coast and one on the west coast of the U.S. From these sites, the new radars should be able to cover a distance of 1800 nautical miles from sea level to the ionosphere in a fan shaped sweep out to sea. However, auroral disturbances present technical difficulties which preclude OTH-B use over the polar approach. Consequently, coverage there will continue to be unsure. The activation of six Airborne Warning and Control System (AWACS) aircraft by the U.S. in 1980 will improve her territorial screen for low flying aircraft, but the extent to which these aircraft will cover Canada is not known.[61] For the present, comprehensive surveillance of all air approaches into Canada appears to be less than assured, especially against aircraft flying at low level.

In the event that hostile aircraft are detected, it is necessary to have a reasonable capability to intercept them and shoot them down. This aspect of NORAD capability

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[60]Ibid.

[61]Ibid., p. 135.

is not impressive, particularly when compared to that of the USSR which has nine times as many interceptors. Canada has three interceptor squadrons composed of a total of thirty-six CF-101 Voodoo aircraft.[62] This is a 1950 and early 1960 vintage aircraft. Although a replacement is intended to be in service by the summer of 1983,[63] the basic decision on choice of airplane has not yet been made. The number of aircraft to be bought is between 130 to 150, but these include replacements for the CF-104 Starfighters in Germany as well. Since the allocation between Germany and Canada is to remain in the same proportion,[64] (36 CF-101s in Canada, 60 CF-104s in Germany),[65] the number assigned to Canada should be between forty and fifty. Aside from the fact that there is skepticism in Canada over whether either of the two main contenders (F-16 and F-18A) can adequately perform their intended missions,[66] it is significant that there is to be no substantial increase in the size of the interceptor force in Canada. Concentrated in a small area, fifty sophisticated interceptors may be a formidable deterrent. When they are required to dominate over 3.8 million miles of airspace, this number is not

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[62]IISS, The Military Balance 1978-1979, p. 21.

[63]Canada, Defence: 1978 in Review, p. 114.

[64]CIIA, "The Events of November 1978," pp. 245-246.

[65]IISS, The Military Balance 1978-1979, p. 22.

[66]CIIA, "The Events of November 1978," pp. 245-246.

impressive. Moreover, until 1983, the thirty-six aging Voodoos, assuming they are all serviceable, must try to do that very job.

The ability of the U.S. to reinforce Canada's interceptor force would depend on warning time, distance involved and other priority commitments. However, the factor of total U.S. interceptors available may be the overriding consideration. The U.S. has only 108 F-106 Delta Dart interceptors now on active duty and 162 others of varying types in the National Guard. All of these are early 1960 aircraft. By comparison, in 1970 the U.S. had 321 interceptors on active duty with another 300 in the National Guard.[67] In 1961 the total NORAD force was close to 2,000 aircraft.[68] As a result of this significant reduction in strength, the U.S. force is now considered sufficient only for "limited control of U.S. airspace in peacetime" and with surge strength "to deny any intruder a free ride".[69] While the new F-15s could be used to supplement

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[67]Collins, American and Soviet Military Trends, p. 146.

[68]Conant, "A Perspective on Defence: The Canada-United States Compact," p. 19.

[69]John M. Collins and Anthony H. Cordesman, Imbalance of Power: Shifting U.S.-Soviet Military Strengths. The Report to the Senate Armed Services Committee by John M. Collins and Net Assessment Appraisal by Anthony H. Cordesman, with a Foreward by Senator Howard H. Baker, Jr. (San Rafael, California: Presidio Press, 1978), p. 104.

the limited interceptor capability, their primary mission is to rapidly reinforce NATO in an air superiority role.[70] Since this small force must cover the whole periphery of the U.S., probably with particular attention to Florida and Alaska approaches, there is unlikely to be much residual capability available for employment in distant parts of Canada.

The reason for this reduced air defense posture, from the U.S. point of view, centers the primacy of the ICBM threat. It is argued that if USSR bombers augmented an ICBM attack on the U.S., these aircraft would provide only an incremental capability as compared to the firepower of the ICBMs. Therefore, to modernize NORAD to deal with a relatively small number of bombers would entail a massive U.S. investment in fighters. Such a program would not be cost effective, unless an adequate anti-ballistic system were emplaced first to counter the primary missile threat.[71] Thus, at this point in time, the only perceived aircraft threat is manned bombers, and since that threat is not worth extensive counter measures, no significant improvements need be taken to upgrade the continental air defense capability.

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[70]Collins, American and Soviet Military Trends, p. 137.

[71]Collins and Cordesman, Imbalance of Power, p. 107.

NORAD's small and aging interceptor force cannot adequately cover the 7.4 million square miles of North American airspace. Given the many open approaches and the great distances involved, it is possible for hostile aircraft to penetrate Canadian territory, especially in the far north, and remain beyond the range of NORAD interceptors. Consequently, it is possible for airborne forces to be delivered to locations in certain areas of Canada with little risk of interception, particularly if radar coverage is bypassed or jammed. Moreover, if hostile airborne forces were escorted by modern fighters, even NORAD aircraft within range might prove ineffective in conducting an interception. Addressing this situation with regard to the inadequacies of U.S. air defense capabilities on the Atlantic approach, the Committee on the Present Danger reveals that: "U.S. early warning and interception forces in Iceland....are obsolescent and provide little capability against modern Soviet aircraft".[72] As a consequence of accepting a degraded air defense system consistent with the reduced bomber threat, North America has made itself vulnerable to penetration by other types of hostile aircraft on other types of missions.

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[72]Committee on the Present Danger, Is America Becoming Number 2?: Current Trends in the U.S.-Soviet Military Balance (Washington, D.C.: Committee on the Present Danger, 1978), p. 36.

## Maritime Defense of Canadian Territory

Canada's maritime security is structured within the context of NATO and is based on the premise that in a major war the naval battles for the control of the Atlantic would be fought in distant waters.[73] She has chosen to contribute to the maritime defense of the Alliance exclusively in the field of anti-submarine warfare and to place all her naval forces under NATO command in a crisis.[74] An adequate residual capability for defense of her enormous coastline is not evident. Consequently, if NATO navies were unable to contain or destroy USSR naval power quickly and to deal with the USSR fishing and merchant fleets which ply the northwest Atlantic at the same time, then problems of coastal defense could emerge as a matter of paramount importance.

In examining the security of maritime approaches to Canadian territory, the following considerations are

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[73]Nicholas Tracy, The Diplomatic Utility of Canada's Naval Forces, Report prepared under contract with Acadia University for the Department of National Defence, Canada, Operations Research and Analysis Establishment (Ottawa: ORAE, 1976), p. 125. See also Nicholas Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, Report prepared under contract with Acadia University for the Department of National Defence, Canada, Operations Research and Analysis Establishment (Ottawa: ORAE, 1975), pp. 150-152.

[74]Tracy, The Diplomatic Utility of Canada's Naval Forces, pp. 28-29, 61. See also Canada, Defence: 1978 in Review, p. 9.

addressed: Canada's existing and replacement naval resources, the magnitude and importance of Canada's anti-submarine commitment to NATO, the impact of the USSR's worldwide naval operations in terms of dispersing U.S. naval forces, and the suitability of Canada's maritime forces for monitoring and defending coastal waters.

Canada possesses a small naval force by international standards. It consists of twenty anti-submarine destroyers, twenty-six Argus long range patrol aircraft, sixteen Tracker short range patrol aircraft, and three Oberon Class submarines. Twelve of the destroyers carry heavy anti-submarine helicopters on board. The force is deployed in an approximate ratio of two-to-one on the Atlantic and Pacific coasts.[75] Canada does not have war ships suitable for Arctic patrol duty. The thin hulls of her anti-submarine destroyers prevent them from operating in ice infested waters.[76] Although periodic sovereignty flights are made over Canadian Arctic waters by the long range patrol aircraft,[77] their ability to monitor

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[75]Tracy, The Diplomatic Utility of Canada's Naval Forces, p. 25.

[76]W. Harriet Critchley, "Canadian Security Policy in the Arctic: The Context for the Future," Paper prepared for the Canadian Arctic Resources Committee Symposium on Marine Transportation and High Arctic Development, (Vancouver: Institute of International Relations, University of British Columbia, March, 1979), p. 25.

[77]Canada, Defence: 1978 in Review, p. 40.

operations in the far north is limited by range, since their bases are located in southern Canada.[78]

The force is being improved in quality, but not in size. Six new frigates are to be built and are scheduled to be launched in the 1985-89 time frame. They will replace six older destroyers.[79] It is not known whether they will have an Arctic capability. Eighteen new long range patrol aircraft, the Aurora (Canadian version of P-3 Orion) will come into service during 1980-81 to replace the aging Argus aircraft.[80] Although the Aurora is a very modern anti-submarine aircraft, it appears that improvements in the performance of USSR submarines will make it difficult for the new aircraft fleet to provide the same level of defense that the twenty-six old aircraft could provide in the past.[81]

The anti-submarine battle in the Atlantic will severely challenge NATO's anti-submarine capabilities. Although the war at sea would be a multi-dimensional fight with a complex array of opposing force configurations which include carrier strike forces, other surface task forces,

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[78]Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, p. 141.

[79]Canada, Defence: 1978 in Review, p. 109.

[80]Ibid., p. 114.

[81]"Aurora Fleet Faces Tough Patrol Role," Halifax Chronicle-Herald, 4 September 1979, n.p. no.

and land based naval attack aircraft,[82] it is the attack and strategic nuclear submarine operations which most concern the Canadian anti-submarine specialists. On the Atlantic, the Canadian Navy has been assigned a quadrangle sector stretching from the coast of Canada east to a north-south line extending to the southern tip of Greenland.[83] Anti-submarine operations in this sector are of particular concern to the U.S., since the sector covers routes which can be used by USSR attack submarines stalking the U.S. strategic submarine force as well as trans-Atlantic shipping. It also covers possible deployment sites for USSR strategic submarines[84] from where they could attack targets on U.S. soil. Consequently, great importance must be ascribed to Canada's control of this large area.

As well as having sector surveillance responsibility, the Canadian anti-submarine force is heavily committed to the important mission of protecting merchant shipping en-route to Europe.[85] The significance of the current submarine threat can be demonstrated by comparing it with the situation at the outset of the Second World War. Although Germany started off with only fifty-seven submarines in

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[82]IISS, The Military Balance 1978-1979, pp. 114-117.

[83]Tracy, The Diplomatic Utility of Canada's Naval Forces, p. 29.

[84]Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, p. 153.

[85]Ibid., p. 168.

that war, Churchill credited the U-boats with being the greatest threat to England's survival. Today the USSR has some three hundred submarines of which one hundred and seventy-five are in her Northern Fleet. This fleet poses a serious threat to the NATO war effort, since large numbers of its submarines are expected to be actively engaged in interdicting allied ships whose cargoes are critical to the winning of the land battle.[86]

Despite the airlift of troops and pre-positioning of equipment, about ninety percent of the stocks to sustain North American reinforcements must move by sea.[87] For this reason European allies pledged six hundred merchant ships to facilitate that operation.[88] The urgency of establishing this sea link is described by Admiral Kidd, Supreme Allied Commander Atlantic:

> "Once hostilities begin, we could not wait for the seas to be cleared of major enemy forces before setting sail for Europe but would have to fight our way across. Losses would be staggering - the Atlantic would be so infested with Warsaw Pact submarines that heavy losses would have to be a fact of war. Delay would be unacceptable. Europe could not wait for the arms, heavy equipment, ammunition, fuel and other military supplies needed to wage war; for the food, raw materials, manufactured goods and energy essential to its economic survival."[89]

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[86]Admiral Isaac C. Kidd, Supreme Allied Commander Atlantic, "The Defense of the Atlantic." NATO's Fifteen Nations 23-5 (October-November 1978), p. 33.

[87]Ibid., p. 30.

[88]AUSA, "Strategic Mobility," p. 8.

[89]Kidd, "The Defense of the Atlantic," p. 33.

The protection of shipping is a time consuming and warship intensive operation. However, Canada is committed to providing many of her ships to convoy duties.[90] In fact, Canada provides roughly ten percent of NATO's anti-submarine warfare capability.[91] As the U.S. Navy has weaknesses in this regard,[92] the contributions of Canada and other NATO allies becomes all the more important in keeping the sea lanes open.

Sea power has become an extremely critical aspect of NATO's overall defense effort. In the past, NATO control of the Atlantic was not seriously questioned. However, today as a result of the USSR's growth in all aspects of maritime power, the balance of naval forces has become precarious.[93] Commenting on the extent to which the USSR has progressed in developing her sea power, one security analyst states:

> "Today, however, the USSR possesses the world's largest and most modern surface navy and the largest underseas force, a powerful naval air arm, the largest and most modern fishing and oceanographic

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[90]Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, p. 168. See also Tracy, The Diplomatic Utility of Canada's Naval Forces, p. III.

[91]Tracy, The Diplomatic Utility of Canada's Naval Forces, p. 30.

[92]Collins and Cordesman, Imbalance of Power, p. 178.

[93]Kidd, "The Defense of the Atlantic," pp. 29-30.

> fleets, one of the largest and fastest growing merchant fleets and one of the most advanced shipbuilding industries in operation."[94]

This development is all the more significant, because it has occurred during a period of quantitative decline in the strength of NATO navies, particularly that of the U.S.[95]

The strength of USSR naval power in the Atlantic and the USSR's worldwide naval and air deployments create two particular problems for NATO navies which have impact on the security of Canada's coastline. First, at a time when the trans-Atlantic sea routes have acquired increased importance in winning the race to rapidly reinforce Europe, these routes have become more vulnerable to interdiction. Second, the sea lanes to Europe and North America from the Persian Gulf, Africa and South America, through which essential raw materials must pass, are now also subject to USSR interference. This first situation will demand maximum concerted effort by available NATO naval forces to ensure vital equipment and supplies reach combat forces in Europe in time. The second situation will divert NATO

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[94]Lawrence L. Whetten, "Recent Developments in the Soviet Navy," The Future of Soviet Military Power, ed. Lawrence L. Whetten (New York: Crane, Russak & Co., Inc., 1976), p. 95.

[95]Kidd, "The Defense of the Atlantic," p. 34. See also Norman Polmar, Soviet Naval Power: Challenge for the 1970s, rev. ed., publ. for National Strategy Information Center, Inc. (New York: Crane, Russak & Co., Inc., 1974), p. 103. And Collins, American and Soviet Military Trends, p. 251. And Collins and Cordesman, Imbalance of Power: Shifting U.S.-Soviet Military Strengths, pp. 180-181, 190.

naval effort intended for the North Atlantic to the protection of distant supply lines. In the past, NATO countries with large forces in the Pacific were confident of shifting these to the Atlantic in time of crisis. This is no longer possible.[96]

Because of the growth of USSR naval power, NATO has lost the capability to cope with all its essential naval missions concurrently. Now it must deal with them in order of priority and accept heavy losses in the process.[97] Thus, NATO's navy capability would be severely extended on high priority tasks at the outset of a crisis and it is most unlikely that there would be surplus capability for low priority contingencies.

Since the USSR is not herself dependent on sea lines of communications to support a war in Europe, her distant air and naval deployments can be fully tasked with sea denial missions. But, on the other hand, NATO countries are so highly dependent on secure oceans that they must expend a disproportionately large share of effort to ensure the safe transit of their merchant vessels.[98] In the crucial matter of protecting the passage of reinforcement related

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[96]Kidd, "The Defense of the Atlantic," pp. 29, 33.

[97]Ibid., pp. 30, 33. See also IISS, The Military Balance 1978-1979, pp. 115, 118.

[98]Hill-Norton, No Soft Options: The Politico-Military Realities of NATO, pp. 67-68. See also Collins and Cordesman, Imbalance of Power: Shifting U.S.-Soviet Military Strengths, p. 247.

supplies to Europe, Canada's anti-submarine capability can be expected to be in great demand on the high seas. If there was expectation that surplus U.S. naval capability could be swung from other theaters into the northwest Atlantic to add depth to defenses there, this is no longer feasible, at least in the short term. Consequently, while Canada's maritime forces are engaged in the great struggle to gain control of the North Atlantic, her own Atlantic and Arctic coastal regions must be left exposed.

In the event that some Canadian maritime forces had to be diverted from NATO tasks for coastal defense, their effectiveness in that role would be limited. While Canadian ships and patrol aircraft are highly effective in combined anti-submarine operations, their capabilities against hostile surface vessels and modern attack aircraft is not great.[99] With the exception of four newer destroyers, Canadian naval vessels are ill-equipped for surface battles. These newer destroyers have defense against low performance cruise missiles and a high capacity five inch gun for surface engagements. The Tracker short-range patrol aircraft is equipped with air-to-surface rockets, but it does not have much penetration capability against modern naval air defense systems.[100] In terms of air

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[99]Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, p. 159.

[100]Ibid., pp. 71-72.

defense, the four newer destroyers do have surface-to-air missiles,[101] however, the fleet as a whole does not have an adequate heavy air defense capability and must operate with allied vessels to gain necessary protection.[102] Thus, Canada does not have a balanced naval force for coastal self defense against modern warships and aircraft.

An important feature of coastal defense is the ability to monitor non-military vessels in coastal waters. In this regard Canada does not have the capability to fully supervise foreign fishing vessels and merchant ships, unless she withdraws naval forces from NATO taskings.[103] Because existing civilian control assets have been inadequate to establish Canadian authority over coastal fishing and pollution, the Navy has been tasked to supplement the civilian effort. The Tracker short-range patrol aircraft has been the main naval resource used for this purpose. However, since few of these aircraft can be spared from NATO duties, and since their range is limited as compared to the coastal area requiring surveillance, the results have been less than thorough. Moreover, they have been unable to meet the requirement for detailed and close-in examination of suspicious fishing vessels. In their

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[101] IISS, The Military Balance 1978-1979, p. 21.

[102] Tracy, The Diplomatic Utility of Canada's Naval Forces, p. 33.

[103] Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, pp. 91, 159.

pollution control role, these aircraft have been able to conduct only spot checks of merchant vessels in selected areas. Consequently, their effectiveness has been limited. The current long-range patrol aircraft has not been employed on these sovereignty missions to any extent.[104] Moreover, the new one is designated primarily as a NATO mission aircraft.[105]

Detecting errant vessels is only part of the problem. Once surveillance has revealed suspicious activity, it is necessary to have surface vessels intercept and take appropriate investigative action. For this purpose there are only two deep sea fisheries control vessels on the west coast and three on the east coast (two more are being added on the east side). While some vessels are armed, they are not fighting ships with military trained crews. For pollution control involving merchant ships, the government has no surface ships, but instead relies on Tracker aircraft surveillance.[106]

While non-military capabilities of the Canadian Government to supervise and control foreign vessels in her waters is very modest, the size of the area of interest and number of ships requiring supervision is substantial. For

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[104]Ibid., pp. 51, 54-55, 100, 159.

[105]John Gellner, "View from Ottawa," NATO's Fifteen Nations 23-5 (October-November 1978), p. 64.

[106]Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, pp. 83, 88, 91, 116.

example, in 1971 there were 49,068 fishing boats registered in a 746,000 square mile area of the northwest Atlantic of concern to Canada. Of these, some 1,700 were foreign owned and most were large. There were 1,471 over twenty-five tons and 534 of this number exceeded fifty tons.[107] Intense activity by USSR trawlers and oceanographic ships has existed off both coasts.[108] Foreign merchant ships are also heavily represented in Canadian waters. In 1975 over 166 million tons of international cargo were handled in Canadian ports, principally by foreign ships, since Canada has virtually no Merchant Marine. The USSR was the sixth largest recipient of Canadian exports that year in dollar terms.[109] Since her own merchant ships carry almost half her foreign trade,[110] it would not be uncommon to find USSR commercial vessels steaming in Canadian waters.

The extent to which U.S. Navy resources could assist with Canada's coastal defense is uncertain, since deployment plans are classified. However, in view of the shifting balance at sea which now compels NATO navies to deal

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[107]Ibid., p. 51.

[108]G. R. Lindsey, Canadian Maritime Strategy: Should the Emphasis be Changed? Report prepared for the Department of National Defence, Canada, Defence Research Analysis Establishment (Ottawa: DRAE, 1969), p. 31.

[109]Canada, Statistics Canada, Handbook Canada, (Ottawa: Ministry of Supply and Services Canada, 1978), pp. 253, 289.

[110]Whetten, "Recent Developments in the Soviet Navy," p. 100.

with the USSR threat in priorities and which now preclude the transfer of large forces from Pacific duty to the Atlantic, it can be assumed that U.S. resources available to reinforce Canadian coastal defense will not be very great. Given these circumstances and considering that Canada has the largest coastline in the world to defend and that even in peacetime, she does not have surface forces capable of operating in Arctic waters, then there would appear to be significant gaps in North American coastal defense.

## Ground Forces for Defense of Canadian Territory

In view of the gaps which would exist in the air and sea defense of Canada after NATO commitments are undertaken, heavy reliance would have to be placed on the capabilities of land forces to destroy any enemy penetrations. Should penetrations be beyond the capabilities of Canadian forces, it could be expected that U.S. assistance would be sought and indeed, provided. It is desirable, therefore, that the combined Canadian and U.S. Army forces remaining after overseas deployments serve as a formidable deterrent against an attack on the continent.

During peacetime, Canada maintains two brigade groups and a Special Service Force at home. This regular force of approximately 17,000 men includes the following combat units: seven infantry battalions, an airborne regiment,

three artillery battalions and three reconnaissance battalions.[111] Once the decision is made to execute the rapid reinforcement of North Norway and the augmentation of the mechanized brigade in Germany, these forces are depleted very quickly. The airborne regiment, two infantry battalions, an artillery battalion and a reconnaissance battalion deploy to Norway.[112] Two infantry companies, an artillery company and a company from a reconnaissance battalion are sent to flush out the brigade in Germany. There is also a requirement for individual augmentation to Germany,[113] as well as replacements for battle casualties in both overseas brigades.

Thus, the residual strength of the regular Army in Canada following overseas deployments could be expected to be in the order of four infantry battalions, two artillery battalions and two reconnaissance battalions. All of these units could be expected to be understrengthed, having provided sub-units and individual augmentees to the overseas commitments, and probably personnel to assist in a mobilization training base. Since the regular Army forces remaining for home defense are not very substantial, great dependence would have to be placed on the reserves.

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[111] IISS, The Military Balance 1979-1980, p. 21.

[112] CIIA, "The Events of November 1978," p. 246.

[113] USACGSC, Interoperability of British, Canadian, German and U.S. Forces, pp. 8-15.

The Army reserves consist of some 15,000 militiamen formed into battalion sized combat and service suoport units.[114] The state of these reserves falls short of existing defense requirements. Indeed, one reserve Colonel has commented that in their present state, the reserves are unready for garrison duty in wartime, much less reinforce the regular Army. He also noted that of forty-five leading nations, only New Zealand and Ireland maintained smaller reserve forces.[115] The Canadian Government has recognized the reserve readiness problem and implemented a new policy in 1978, which would result in greater numbers of reservists being able to react more quickly. However, because of budget restraints for Fiscal Year 1979-1980 the reserve activity rate had to be cut rather than increased.[116]

The situation in tactical airforce capability parallels that of the Army. Canada has only two operational squadrons of CF-5 close support aircraft and both of these are included among the reinforcement forces for North Norway.[117] As a result, only training cadre would be

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[114]IISS, The Military Balance 1979-1980, p. 21.

[115]CIIA, "The Events of November 1978," p. 246.

[116]CIIA, "The Events of January 1979," pp. 14-15.

[117]Canada, Defence: 1979 in Review, p. 68. See also USACGSC, Interoperability of British, Canadian, German and U.S. Forces, p. 8-2.

available for home defense requirements. Since the Airforce reserves train on the Otter,[118] a small propeller driven passenger aircraft, reserve pilots would be unlikely to be able to fly high performance aircraft without extensive training.

As noted earlier, a Canadian Government defense publication states that a conventional attack on the Canada-U.S. region is remote as long as "Canada and the United States maintain sufficient forces in this region to deter a potential aggressor."[119] Since Canada's small regular forces and reserves would not present a convincing deterrent after NATO commitments are undertaken, the necessary forces would have to come from the U.S.

During peacetime, the U.S. maintains ten Army divisions and three separate brigades on active duty in the continental U.S. Other army forces are deployed in Europe, Korea, Panama, Hawaii and Alaska.[120] In the event of a NATO emergency, much of the continental based force is scheduled for rapid deployment overseas. While the Joint Chiefs of Staff have indicated that a conflict in Europe would consume virtually all U.S. force capabilities, there are other contingencies which could place an additional

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[118]Canadian Institute of Strategic Studies, Proceedings of Fall Seminar 1977, (Toronto, 1977), p. 59.

[119]Canada, Defence: 1978 in Review, p. 8.

[120]DOD, Report to Congress for FY 80, pp. 140-141.

burden on her Army resources. In fact, the U.S. force structure is based on having the capability to fight a major conflict in Europe and a lesser one somewhere else "more or less simultaneously."[121] Such a lesser conflict could well occur in the Persian Gulf region and spread quickly to the NATO-Warsaw Pact front in Europe and to the Far East as well.[122]

During 1979 the U.S. Government conducted a study to consider the implications of fighting an all-out non-nuclear NATO war, concurrently with a contingency operation in the Persian Gulf. The Army contribution to a rapid reaction contingency force under consideration was two divisions. The highly mobile airborne and air assault divisions are considered likely elements of such a force.[123] U.S. preparations to fight in the Gulf region are increasing. Her naval forces in the Indian Ocean have grown to two carrier task forces, a marine amphibious unit has deployed to the region and arrangements have been made to establish ten U.S. military bases on the Arabian Peninsula and East Africa.[124]

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[121]Ibid., p. 13.

[122]Ibid., pp. 55, 98-100.

[123]IISS, Strategic Survey 1978, p. 14. See also AUSA, "Strategic Mobility," p. 1.

[124]"Troop Shortfall Worries Allies," The Kansas City Star, 21 February 1980, p. 16. See also "U.S. gets OK to use bases in 3 nations," The Kansas City Times, 12 February 1980, p. 1.

Should a scenario come to pass which necessitated first, a two division deployment to the Persian Gulf region, followed immediately by a five division deployment to Western Europe, then only three active divisions and three separate brigades would be left in the U.S. As U.S. reinforcement plans for NATO provide for the despatch of remaining active divisions to Europe as rapidly as possible,[125] this can be expected to take place considering the critical importance now ascribed to getting adequate conventional forces on the ground in Europe very rapidly. The determining factors in the rate of deployment of these remaining forces could be the time required to ship their equipment to Europe and their state of operational readiness.

In the event that the required strategic transport could be assembled to permit these planned rapid deployments to take place, the home defense needs of the U.S. and any reinforcement requirements in Canada would have to be provided by the U.S. Army Reserve Components. Accordingly, the readiness state of these reserves ought to be of a high standard considering the swiftness with which the Active Army is expected to deploy overseas.

Aside from the Reserve Component units which are designated to round-out Active Army divisions upon mobilization, there are eight National Guard divisions in first

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[125]DOD, Report to Congress for FY 80, p. 201.

line reserve and twenty Reserve separate brigades.[126] National Guard infantry divisions require about ten weeks of intensive preparations before they achieve accepted readiness standards. Armored and mechanized divisions require about sixteen weeks training, if tank gunners and signal elements are to achieve proficiency. The Reserve brigades require about thirty days for equipping and at least two months for training.[127]

These timings are based on normal expectations. In fact, current manning problems may well preclude these timings from being met. One study indicates that the National Guard and the Army Reserves are at least 150,000 below acceptable maning levels and the Individual Ready Reserve, the main source of trained individual replacements, is deficient by 500,000.[128] As a result of a mobilization exercise conducted in 1978, the Joint Chiefs of Staff calculated a shortfall of at least 388,000 reservists.[129] The total impact of these deficiencies on mobiliztion plans cannot be determined without access to classified information. However, the magnitude of the shortfalls strongly

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[126]Ibid., p. 141.

[127]Collins and Cordesman, Imbalance of Power, p. 129.

[128]Association of the United States Army, "The Fiscal Year 1980 Defense Budget: An Analysis," Special Report (February 1979), p. 14.

[129]JCS, U.S. Military Posture for FY 80, pp. 81-82.

indicates that considerable delay could be expected in meeting mobilization timings.

Considering that the time available to react successfully to an imminent Warsaw Pact attack in Europe could be very short, the decision to execute reinforcement operations and mobilization would have to be taken very quickly after warning was acquired. Given the expectation that five active divisions could be deployed overseas in two weeks and the reality that even first line infantry reserves cannot achieve minimum operational readiness for at least ten weeks after mobilization, there would be an extended period of time during which the continental U.S. would be weak in combat forces. She would be particularly weak, if two divisions were deployed to the Persian Gulf immediately before the reinforcement of Europe commenced.

The extent to which the U.S. could react to an attack on Canada after executing deployments to the Persian Gulf and Europe would depend on the status of the three remaining active divisions and brigades and of the progress of reserve mobilization. If the equipment of the active units were not already enroute to embarkation ports or on board ships bound for Europe, some of these forces might be available, provided the necessary mobility also existed to deploy them to the locations of the enemy lodgements. If the reserve forces were still in the first phases of mobilization, they could not be counted on to any great extent. Indeed, the ability of the U.S. to respond would be

further reduced by the need to meet urgent home security requirements which would doubtlessly be generated, if hostile forces were seen to have penetrated the continent. Thus, for an uncertain period of time immediately after overseas deployments, the U.S. could find herself exceedingly hard pressed to lend assistance should USSR penetrations in Canada exceed the capabilities of the Canadian forces to destroy them.

The picture which emerges from an examination of North America's security, once NATO and other overseas commitments are met, is potentially alarming. Air defense over Canadian territory would provide neither assured detection or interception of hostile aircraft. The Canadian coastline would not have adequate protection. The operationally ready Army forces remaining on the continent to repel invaders could be exceedingly modest. This being the possible state of North America's security at the outset of a NATO-Warsaw Pact war, it remains to examine the capabilities of the USSR to exploit these vulnerabilities and the implications of such actions for NATO reinforcement plans.

## CHAPTER IV

## THE USSR's CAPABILITY FOR PROJECTING MILITARY POWER ONTO NORTH AMERICA

### The New Phenomenon of USSR Power Projection Overseas

The relatively new phenomenon of the USSR being able to project conventional military power world-wide has become a matter of increasing concern to Western nations. The focus of this concern is on her growing ability to exercise initiatives in and assert her influence among the littoral states of Asia and Africa.[130] Her naval power and strategic airlift capabilities are allowing her options hitherto limited to the U.S. and certain European states. She is now able to use her projection capabilities in these areas to help establish regimes which share her social-economic philosophies, help keep friendly governments in power which are threatened[131] and secure bases for herself for future contingencies.[132] All of these serve to

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[130]JCS, US Military Posture for FY 80, pp. 17-18.

[131]IISS, Strategic Survey 1978, pp. 12, 17, 47.

[132]W. Scott Thompson, Power Projection: A Net Assessment of U.S. and Soviet Capabilities, with a Foreword by E. R. Zumwalt, Jr. Admiral, U.S. Navy (Ret.) (New York: National Strategy Information Center, Inc., 1978), pp. 34-35.

enhance her status as a global power and allow her to influence how the international political, social, and economic system will develop in the future.

This extension of USSR military power beyond the Central Eurasian land mass is generally seen to present both a peacetime and wartime threat to NATO nations. In peacetime the threat is perceived of in terms of opposing views on how the world environment ought to be shaped[133] and in terms of competition for access to scarce national resources in the Third World.[134] In the event of war, the threat tends to center on the possibility that the USSR would use her access to military facilities located along the oil shipping routes to Europe and the U.S. from the Persian Gulf to interdict vital supply lines.[135] However, among various assessments concerning the implications of expanding USSR power projection, there is no apparent threat perceived, that she might be acquiring a capability which also has utility to create mischief in North America in the event of a European war.

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[133]Robert Legvold, "The Concept of Power and Security in Soviet History," Adelphi Papers 151 (Summer 1979): 8-9, 11-12.

[134]George Sokoloff, "Sources of Soviet Power: Economy, Population, Resources," Adelphi Papers 151 (Summer 1979): 35. See also Thompson, Power Projection, p. 47.

[135]Thompson, Power Projection, p. 56.

## The Notion of Rear Area Operations in North America

While it is generally recognized that the USSR would interdict North America's reinforcement flow to Western Europe, that interdiction is expected to occur in costly air and sea engagements enroute to the overseas battlefields. There is little evidence of concern that the USSR might also seek to cut the reinforcement flow at source by attacking North America directly, thereby causing the diversion of large forces from the main objectives elsewhere. It is not known whether the USSR has any such contingency plans, but it is instructive to note that she does place much emphasis on conducting operations behind enemy lines to disrupt his defensive capabilities. Moreover, she has airborne and amphibious forces in-being which train to execute such operations.[136]

One authoritative analysis recognizes the USSR's capabilities to use these forces off the Eurasian land mass, but only under circumstances short of major war.[137] However, an examination of USSR capabilities for and experience at projecting military power abroad will reveal that her potential for rear area operations in

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[136]U.S. Department of the Army, Soviet Army Operations (Arlington, Virginia: United States Army Intelligence and Threat Analysis Center, 1978), pp. 7-1, 7-27.

[137]Ibid., p. 7-1.

Canada during a NATO-Warsaw Pact conflict are significant. She has been steadily expanding the size of her insertion forces and the air and sea transport required to get them to overseas objectives. She has also produced command and control systems which facilitate joint service operations overseas on a grand scale. In addition, through large scale exercises and practical experience, she has acquired the expertise to carry out such operations efficiently and effectively. Each of these factors will be examined to show that the USSR has a capability to place significant sized forces on Canadian soil at the outset of a NATO-Warsaw Pact conflict.

## The USSR's Capability to Penetrate Canada's Defenses with Airborne Forces

Examining airborne forces first, it is clear that the USSR places great value on this type of military capability. As a result of adding three more divisions to her airborne order of battle, she now possesses one training and seven operational divisions, as well as a number of smaller special purpose airborne units. The USSR has by far the largest airborne forces in the world. These forces are trained for paradrop, airlanded and helicopter assault roles. Their spectrum of employment ranges from missions on the tactical battlefield to long distance strategic objectives.[138]

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[138]DOA, Soviet Army Operations, pp. 7-1 to 7-4. See also IISS, Strategic Survey 1978, p. 13.

Although the USSR claims to have conducted an exercise involving 100,000 parachutists, the equivalent of an airborne army, this was probably without full equipment and supplies.[139] There are varying opinions as to her actual capabilities to execute operational assaults over medium distances, using all available air transport in a single lift. One source indicates a maximum of three divisions,[140] another says three to five divisions[141] and a third suggests 30,000 troops with equipment.[142] However, even if the lowest figure of three divisions is the most accurate, this still represents an enormous capability and indicates the magnitude of the threat. The distances to which her airborne forces can be deployed depends on the range of the aircraft used. Employing long range strategic lift only, the projection distance can be increased substantially, but the number of troops and weight of equipment would be considerably less.

The state of readiness of the USSR's airborne forces is high. Although there are still some deficiencies in

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[139]Peter Borgart. "The Soviet Transport Air Force: Aircraft and Capabilities." International Defense Review 12-6 (1979): 949.

[140]DOA, Soviet Army Operations, p. 7-3.

[141]Kenneth R. Whiting, The Development of the Soviet Armed Forces, 1917-1977, Documentary Research Study AU-10 (Maxwell Airforce Base, Alabama: Air University, 1977), p. 85.

[142]Borgart, "The Soviet Transport Air Force: Aircraft and Capabilities," p. 949.

personnel and equipment in the newer divisions, in general the airborne units have weapons, equipment and supplies palletized for quick reaction. They carry anti-tank and hand-held air defense weapons with them on airborne assaults and improvements are being made to increase their firepower, including the introduction of an air droppable BMP armored vehicle.[143] Once an airfield is secured, heavy weapons, support equipment and supplies can be air-landed to give them greater firepower and the resources for sustained operations.

The capability of the USSR to rapidly project forces overseas is enhanced by the integrated nature of her military transportation command and national airlines. In fact, Aeroflot is regarded as an extension of the military airlift structure and its resources are readily available for military purposes. This allows Military Transportation Aviation to add 1,300 aircraft to its existing inventory of 1,500 fix-wing airplanes, thereby increasing its cargo lift capacity by twenty-five percent and personnel lift by three hundred percent. Both organizations fly many of the same type of aircraft. Moreover, Aeroflot pilots perform military duties on a regular basis. One routine way in which Aeroflot is used to augment military assets is in the twice annual rotation of 100,000 troops each way between the

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[143]Thompson, Power Projection, p. 13. See also IISS, Strategic Survey 1978, p. 13.

Central USSR and forward bases in Eastern Europe. The assignment of 300 Aeroflot aircraft to this mission, apparently does not disrupt normal airlines schedules.[144] Having the capability to quickly program civilian air assets for military duty expands her strategic transportation options considerably.

The two primary strategic transport aircraft in the USSR inventory are the wide body AN-22 COCK and the newer IL-76 CANDID. The AN-22 is capable of carrying fifty tons up to 6,800 miles, but when using its full lift capacity of eighty-eight tons, this range is reduced to about 3,100 miles. Its troop carrying capacity is 200 regular soldiers or 150 para-troopers. Military aviation owns forty of these and Aeroflot another thirty-six. The IL-76 has less lift and shorter range, but exists in greater numbers than the AN-22. It can carry twenty-five tons up to 4,100 miles, but is reduced to about 3,100 miles with a full load of forty tons. Troop capacity of the IL-76 is 150 regular soldiers or 100 paratroopers. Military aviation has 100 and there are twenty-five more with Aeroflot. However, these figures are subject to change since they are being manufactured at the rate of three per month. The USSR has a new long range aircraft now under development called the

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[144]Phillip A. Petersen, Soviet Air Power and the Pursuit of New Military Options, Pub. under auspices of the United States Air Force (Washington D.C.: Government Printing Office, 1979), pp. 30-35. See also Whiting, The Development of the Soviet Armed Forces, 1917-1977, pp. 88-89.

AN-40, which will improve her projection capability substantially in the future. It is estimated that it will be able to carry 120 tons over 3,000 miles. This exceeds the capability of the U.S. C-5A Galaxy.[145] Considering current assets only at this point, the USSR has some 200 transport aircraft, which from departure points in Northern USSR, can easily carry troops to Canadian airfields in the region of $70^{o}$ latitude and beyond.

Not only do these aircraft have the necessary range, but they have design characteristics which would make them very suitable for operations in Northern Canada. Indeed, they have been constructed for employment in the winter conditions and austere environment found in Siberia. Specifically, they are short take-off and landing aircraft with extremely rugged undercarriages. With these features and the capability to adjust tire pressure in flight, they are able to operate from unpaved strips. Equipped with on-board test equipment and self-starting engines, and having the capability for gravity refuelling, they are able to operate without ground servicing equipment. Their capability for independent operations is enhanced by having on-board cargo handling systems built into the load bearing structure of the aircraft. In addition, the IL-76 provides for a mechanic and electrician as part of the crew and

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[145]Borgart, "Soviet Transport Air Force: Aircraft and Capabilities," pp. 946-948. See also Whiting, Development of the Soviet Armed Forces, 1917-1977, pp. 88-89.

sufficient repair parts to allow continued operations away from maintenance facilities for ninety days. A final characteristic on these aircraft which greatly facilitates Arctic employment is their exceptionally effective de-icing systems.[146]

As indicated in the earlier discussion of North American air defense, the polar route through Canada is not adequately monitored in terms of radar coverage, nor is it defended in terms of northerly deployed interceptors. Moreover, existing DEW line radar sites can be destroyed by aircraft such as the Back-Fire bomber which can fire cruise missiles from points beyond the range of the radar coverage.[147] Thus, either through by-passing or destroying the radars, USSR transport aircraft could conceivably penetrate North America undetected. In the zone of the $70^{o}$ parallel, there are a number of undefended airfields which they might seize and use as staging bases for further operations. Indeed, there is a belt of airfields adjacent to the DEW stations at approximately one hundred mile intervals across the northern rim of Canada.[148] In addition, there are other airfields which support communications

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[146]Borgart, "Soviet Transport Air Force: Aircraft and Capabilities," pp. 945-949.

[147]Critchley, "Canadian Security Policy in the Artic," See also Collins, American and Soviet Military Trends, pp. 108, 133.

[148]Canadian Institute of Strategic Studies, Proceedings of Spring Seminar 1979 (Toronto, 1979), pp. 34-35.

facilities, oil and gas development sites and small communities, some of which are even further north than the radar coverage of the DEW stations. In the mid-1970's the USSR built an airfield on an iceflow in Canadian Arctic waters that is larger in size than any airfield built in the Canadian Archipelago. This airfield ostensibly supports a scientific undertaking.[149] However, it probably also provides the USSR with very useful military intelligence on aspects of the Canadian Arctic.

The vulnerabilities of the polar route surveillance systems, lack of northern air defense interceptor bases and the existance of suitable airfields offer significant opportunities to forces capable of operating in the austere northern environment. The USSR has such capabilities. Only small parachute forces would be required to seize selected airfields and thereby permit follow-on forces to be air landed. Once airfields were secure, heavy air defense systems, fuel, ammunition and other supplies could be brought in to set up bases for further operations. If fighter aircraft protection were considered necessary, the SU-19 FENCER could be flown in using in-flight refuelling. The IL-76 tankers can refuel three of these aircraft at one time. This new multi-purpose combat airplane flies at Mach

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[149]C. G. Jacobsen, "Soviet Strategic Objectives for the 1980's," The World Today 35-4 (April 1979): 133.

2.4 and is very suitable for interceptor and ground attack roles.[150] The USSR has 190 SU-19s in her inventory.[151]

Aside from the enormous psychological impact which the USSR would achieve by establishing a presence in Canada, there are also targets of strategic importance in the far north which she might seize or threaten. For example, the natural gas found in the Canadian areas of the Mackenzie River Delta, Beaufort Sea and Arctic Islands are estimated to hold about twenty-two percent of Canada's current reserves. By 1986 these sources should be producing 12 billion cubic feet a day. One estimate predicts that by the 1990s, these areas will be providing half the Canadian natural gas requirements. As a fuel, this gas is important to the manufacture of critical items such as steel, cement and electric power. As a feeder stock in the petrochemical industry, it is used in the manufacture of such items as ammonia, acetyline and synthetic rubber. The importance of gas can be expected to increase in the future, since the Canadian Government is encouraging oil users to switch to gas as a fuel in anticipation of oil scarcity.[152]

The oil now under development in the area is also a strategic material. The Canadian oil reserves there are

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[150]Whiting, Development of the Soviet Armed Forces, 1917-1977, p. 87.

[151]IISS, The Military Balance 1978-1979, p. 10.

[152]Critchley, "Canadian Security Policy in the Artic," pp. 12-14.

estimated to be 70 billion barrels and there are similar sized oil deposits off the north shore of Alaska. Some of the Canadian oil is expected to start flowing to market in 1984. Since Canada now imports about thirty-two percent of the oil it consumes and the U.S. about forty-five percent,[153] the wartime danger of interdiction of that supply line would make continental supplies exceedingly important. Accordingly, Arctic drilling sites, pumping stations and pipelines would be lucrative targets for USSR commando raids or objectives to be seized and held. As well as opportunities to deny the supply of strategic material from the Arctic, USSR airborne forces might be assigned the tasks of seizing communications facilities, weather stations and radar installations. Since there are no Canadian army, navy or airforce combat forces based in the far north,[154] the opportunities for unimpeded USSR military action there are considerable. Moreover, if the USSR were to establish bases in the region, she could use them as staging points for activities further to the south.

## The USSR's Capability to Penetrate Canada's Defenses with Maritime Forces

Although the naval infantry forces of the USSR are somewhat less formidable than her airborne forces, by using

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[153]CISS, Proceedings of Spring Seminar 1979, pp. 8, 21-22.

[154]Ibid., pp. 34-35.

unconventional methods they could penetrate Canada's coastal defenses in substantial numbers. This 12,000 man force is formed into five brigades, each with one tank and nine APC battalions and is assigned to the four fleets of the USSR.[155] The force is supported by over 100 naval amphibious vessels of which twenty-five are suitable for open ocean operations.[156] The fact that this force has doubled in size in the past ten years[157] is an indication of the increased importance attached to its function.

Currently the USSR lacks the carrier borne air support necessary to employ her naval infantry on a power projection mission, which involves an opposed over-the-beach operation beyond the range of her land based Naval Airforce. She has only two 40,000 ton KIEV class carriers and these are classified as anti-submarine vessels. However, in addition to their compliment of anti-submarine helicopters each of these vessels also carries thirty-six YAC-36 FORGERs.[158] This high performance aircraft has been observed exercising in a ground support role[159] and by one estimate, is a very effective close air support

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[155]Whiting, Development of the Soviet Armed Forces, 1917-1977, p. 106.

[156]JCS, US Military Posture for FY 80, p. 23.

[157]IISS, Strategic Survey 1978, p. 12.

[158]Collins, American and Soviet Military Trends, p. 251. See also Petersen, Soviet Air Power and the Pursuit of New Military Options, p. 47.

[159]Gray, The Soviet Military Threat, p. 82.

airplane.[160] If this training is an indication of intended employment, more ships are being built which could overcome her deficiency in carrier borne air support. One estimate indicates that carrier construction in the USSR is proceeding at the rate of one every two years with an objective of at least eight.[161] Thus, the USSR might well be acquiring the capability to deploy amphibious task forces to distant oceans.

Under conditions of a major European war, it is considered that the primary mission of the existing amphibious and airborne forces would be to help secure nearby strategic locations such as North Norway, Denmark, and the Dardenells.[162] Naval infantry operations in these areas can be well supported by the USSR's very large land based naval airforce. Any amphibious naval task force crossing the oceans to North America would be very vulnerable to detection and destruction during the lengthy passage. However, what would be much less likely to be detected would be merchant and fishing vessels delivering company and battalion sized units to locations on the coast of

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[160]Collins and Cordesman, Imbalance of Power, p. 143.

[161]Worth H. Bagley, "Sea Power and Western Security: The Next Decade," Adelphi Papers 139 (Winter 1977): 36.

[162]Polmar, Soviet Naval Power, p. 99. See also Whetten, "Recent Developments in the Soviet Navy," p. 10[illegible]. And Petersen, Soviet Air Power and the Pursuit of New Military Options, p. 59.

Canada to coincide with the outbreak of an offensive in Europe.

The potential use of merchant and fishing fleets for unconventional operations by the USSR is considerable. Indeed, both of these state-owned maritime organizations perform military roles. The officers aboard merchant vessels are normally naval reservists or regular officers assigned to that duty. The merchant fleet regularly augments naval support ships and has been extensively employed carrying military equipment and supplies to support USSR sponsored activities in Vietnam, the Middle East, Angola and Ethiopia. With highly centralized control and a world-wide communications system, both these fleets are very responsive to military requirements, including the provision of real time intelligence concerning the vessels they encounter at sea and the ports they visit.[163]

With over 2,350 vessels in her merchant fleet, the USSR possesses one of the world's largest merchant navies. The size of this fleet far exceeds her own international trade requirements and much of it is employed carrying trade for other nations, especially those of the third world. The fleet has little difficulty in acquiring foreign employment, because of the artificially low tariffs it maintains. Indeed, it has even secured a license to carry

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[163]Collins, American and Soviet Military Trends, pp. 246, 253, 316. See also Whetten, "Recent Developments in the Soviet Navy," p. 100. And Polmar, Soviet Naval Power, p. 84.

trade between Japan and the U.S. Her cargo ships carry part of her large annual wheat purchases from North America[164] and by international agreement her cruise ships have access to Canadian Atlantic, St. Lawrence River and Newfoundland ports.[165] It is significant that the USSR merchant fleet includes over 1,600 modern and highly automated ships, which seem to have been designed with sea power concepts in mind, rather than strictly commercial considerations. These ships are capable of independent operations in ports which have few facilities and shallow harbors. Her ship construction is now tending towards Roll-On/Roll-Off (Ro/Ro) vessels of which she now has some twenty in service. These ships allow wheeled and tracked vehicles to board and disembark quickly over open piers.[166]

The USSR's fishing fleet is also very large and modern. It consists of some 4,450 ocean-going vessels over 100 tons. These ships operate in flotillas, each with about twenty trawlers accompanied by several large factory ships.[167] Some of these flotillas operate off the

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[164]Polmar, Soviet Naval Power, p. 79. See also Whiting, Development of the Soviet Armed Forces, 1917-1977, p. 114.

[165]U.S. Department of Commerce, Maritime Administration, The Soviet Merchant Marine (Washington, D.C.: U.S. Government Printing Office, 1967), p. 25.

[166]Collins and Cordesman, Imbalance of Power, p. 203.

[167]Polmar, Soviet Naval Power, p. 82. See also Whiting, Development of the Soviet Armed Forces, 1917-1977, p. 114.

Canadian coasts and their ships visit ports such as St. John's Newfoundland.[168]

The USSR has large numbers of merchant and fishing vessels on the high seas and it is common for some of them to be present in Canadian waters. Assuming a little imagination and ingenuity, it would be possible for the USSR to use these para-military ships to carry military forces unobtrusively into Canadian ports and coastal regions, during the period immediately preceeding a surprise attack in Europe. Germany employed such a technique to support her invasion of Norway during the Second World War. In that operation the Germans positioned merchant vessels with troops hidden below in certain Norwegian ports. These appeared to be innocent commercial ships engaged in normal trade. However, at the appointed hour, the troops disembarked rapidly and seized key facilities in advance of the main attacking forces.[169] If the USSR were to attempt surprise lodgments in a similar manner, her ships might improve their chances of avoiding detection by changing their flags and names. This is not an uncommon maritime practice even in peacetime.

Considering Canada's modest capability to monitor commercial vessels in her extensive coastal waters in

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[168]Tracy, The Diplomatic Utility of Canada's Naval Forces, p. 34.

[169]Richard Petrow, The Bitter Years: The Invasion and Occupation of Denmark and Norway, April 1940-May 1945 (New York: William Morrow & Co., Inc., 1974), pp. 3, 39-40.

peacetime, it could be expected that this capability would not increase substantially in time of crisis. Her Navy would have few resources to divert from high priority anti-submarine missions and her civilian control agencies lack the resources. It is significant that on the list of priority tasks to be undertaken by NATO navies in wartime, there is no mention of dealing with the enemy's commercial fleets.[170] In fact, this may be a secondary task. However, since NATO does not now have sufficient naval forces to cope with all its high priority tasks concurrently, then USSR merchant and fishing vessels purposely positioned in weakly defended coastal areas could well have freedom to maneuver for a time following a short warning attack on NATO.

The provision of some measure of self defense for USSR merchant and fishing vessels on unconventional missions would give them a large measure of survivability, if detected and intercepted by Canada's limited coastal defense forces. The idea of arming merchant vessels is not a novel one. It has been practiced in previous wars and the USSR has had firsthand exposure to the techniques. For example, Germany disguised merchant ships in both World Wars and employed them with great success as armed raiders. In 1940 the USSR cooperated with Germany by providing port facilities and ice breaker assistance to a

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[170]IISS, The Military Balance 1978-1979, p. 115.

German merchant raider disguised with a USSR name and operating in the Barent Sea. The USSR is also familiar with Japan's sucessful use of converted passenger liners in their 1905 war.[171]

Armed with concealed anti-ship and anti-aircraft guns and missiles, USSR merchant and fishing vessels would have a formidable defense capability against Canadian fisheries control vessels, naval helicopters and Tracker patrol aircraft. Indeed, with appropriate weapons systems they might successfully engage an unsuspecting ASW destroyer, considering its thin hull and limited armament for surface fighting. In the Second World War one German merchant raider disguised as a Dutch freighter succeeded in sinking an Australian cruiser in this manner, before it was sunk itself in the engagement.[172] While it is not known whether the USSR now arms or has plans to arm merchant and fishing vessels, it is instructive to note that unlike western nations, she does provide protection for certain military transport aircraft. Both the AN-12 and the IL-76 have rear turrets with parallel firing AM-23 guns.[173]

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[171]David Woodward, The Secret Raiders: The Story of the German Armed Merchant Raiders in the Second World War (New York: W. W. Norton & Co., Inc., 1955) pp. 13, 27, 44, 45, 185-189.

[172]Ibid., pp. 223-227.

[173]Borgart, "Soviet Transport Air Force: Aircraft and Capabilities," pp. 945-946.

Thus, she regards a capability for self defense as a necessary feature for military transporters operating in a hostile environment.

Whether they were to slip into Canadian ports while engaged in seemingly innocent trading activities or by disguising themselves under other national flags, once access were gained, the facility of USSR ships for independent operations would allow them to set troops and equipment ashore with little difficulty. Indeed, if Ro/Ro ships were employed, then troops accompanied by their mobile support weapons could be disembarked quickly and put into action immediately.

There are small ports on both the east and west coast, as well as the Gulf of St. Lawrence, which would be particularly suitable for surprise attack by naval infantry forces carried in disguised vessels. These locations are small enough to enable hostile forces of battalion size to quickly establish control over key facilities and isolated enough so that Canadian military counter measures would be difficult. St. John's, Newfoundland and Prince Rupert, British Columbia are two examples. In addition, raiding parties dropped along the coast of Prince Edward Island or the north shore of New Brunswick could seriously threaten nearby bases used by long range maritime patrol aircraft. Parties with anti-shipping missiles, put ashore along the St. Lawrence River, could block that vital link between Great Lakes ports and the Atlantic. Moreover, unobserved

merchant ships could deposit mines along the St. Lawrence adding a further barrier to traffic. Canada would have great difficulty coping with this barrier, since she does not have any minesweepers on her east coast.[174] Such mining techiniques were used successfully by Germany during the Second World War. She employed disguised merchant vessels to lay mines along narrow channels used by allied shipping.[175] The options available to the USSR for using her large merchant and fishing fleets for such rear area operations are limited only by the resourcefulness of her military planners or by the timely reassignment of Canadian military forces from other missions to coastal defense tasks.

## The USSR's Experience with Combined Air and Sea Operations Overseas

To conduct multiple airborne and seaborne penetrations of Canadian territory while launching a surprise attack in Europe would be difficult to co-ordinate. However, through her global naval exercises and actual support of wars outside Eurasia, the USSR has been acquiring the type of expertise which would facilitate the execution of such endeavors. For example, OKEAN 70 and 75 were world-wide USSR naval maneuvers involving over 200 ships and 500

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[174]Tracy, The Enforcement of Canada's Continental Maritime Jurisdiction, p. 127.

[175]Woodward, The Secret Raiders, pp. 57, 74, 155, 171.

aircraft, and were supported by the merchant navy serving as auxiliaries. Forces in the Barent Sea, Atlantic Ocean, Mediterranean Sea, Indian Ocean and Western Pacific were exercised simultaneously through several phases of naval warfare, including amphibious operations. Although both exercises were roughly the same size, the second one displayed some substantial improvements over the first.[176] One aspect of these exercises of particular interest to this study was the impressive degree of centralized control and effective communications achieved, thereby facilitating the conduct of simultaneous operations in widely scattered locations. Both satellites and computerized data flow were employed to achieve this.[177] These exercises demonstrated a greater capability in this regard and a wider spectrum of naval contingencies than previously estimated by western analysts.[178]

In the past decade the USSR has also demonstrated an impressive ability to organize and execute support for military operations in distant contingency areas in a manner not previously considered feasible. Her successes in conducting well co-ordinated air and sea support to allies during the 1973 Middle East War, Angolan Civil War and

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[176]Whetten, Recent Developments in the Soviet Navy, pp. 101-108.

[177]Collins, American and Soviet Military Trends, pp. 254-294.

[178]Whetten, Recent Developments in the Soviet Navy, p. 109.

Ethiopian-Somalian War not only showed her improved capability, but they also provided her with valuable experience for executing overseas operations in conjunction with a European war.

In the 1973 Middle East War, the Arab offensive on October 6 took the USSR by surprise. It is estimated that she had less than seventy-two hours warning.[179] Nevertheless, her first resupply ship destined for her Arab clients left Odessa the next day and her air resupply commenced four days later. By the sixth day she was flying sixty to ninety resupply flights daily to Syria and Egypt for a total of about 650 sorties during the period of actual fighting. She is estimated to have delivered 15,000 tons of equipment and supplies to her allies by air and 85,000 tons by sea.[180] Her air resupply operation involved nearly twice the weight achieved by the U.S. in supporting Israel and her sea resupply tonnage was almost ten times as great as that of the U.S.[181] Commenting on the USSR's rapid deployment of warships to the crisis area and peripheral choke points and her efficient maritime resupply effort, Laurence Whetten of the International Institute of Strategic Studies states that the USSR:

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[179]Ibid.

[180]Thompson, Power Projection, p. 13. See also Whiting, Development of the Soviet Armed Forces, 1917-1977, p. 110.

[181]Whetten, Recent Developments in the Soviet Navy, p. 8.

"...revealed professionalism, deliberation and precision in a series of unanticipated contingencies that can now be expected to characterize future Soviet naval behavior."[182] The Deputy SACEUR, General Schmuckle was similarly impressed with the centralized military transportation aspects of this operation and comments that: "The Soviet capability of timely logistic support functioned superbly... The meshing of air and sea transport demonstrated a great degree of organizational talent."[183] This skillful execution of support to overseas contingencies was repeated a few years later in Angola.

While the 1973 Middle East War indicated a USSR capability for co-ordinated, rapid reaction to a crisis, her support to her client in Angola was highly significant in terms of projecting military power over great distances and from various starting points. In this operation, an intervention force of about 11,000 was flown from Cuba over a several month period. At the same time some forty-six air transport flights brought in initial equipment and supply requirements from the USSR. Both troop and supply aircraft were efficiently staged through Conakry, Guinea. Sea transport was used to deliver the sustaining stocks.[184]

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[182]Ibid., p. 109.

[183]General Gerd Schmuckle, Deputy SACEUR, "Mobility as a Strategic Element," NATO's Fifteen Nations 24-4 (August-September 1979).

[184]Whiting, Development of the Soviet Armed Forces, 1917-1977, pp. 89, 113.

The intervention force which grew to approximately 20,000 Cubans was married up with its MIG 21s, T-54 tanks, anti-tank weapons, transport vehicle and bridge building materials without apparent difficulty. The operation demonstrated that the USSR can project forces over 6,000 miles into a low risk environment and handle the complex logistics involved.[185]

In her largest combined sea airlift operation to date, the USSR inserted a Cuban force of some 17,000 into Ethiopia during 1977-78 and provided that force and the forces of the host nation with the necessary support to conduct air and armored operations on both the Ogaden and Eritrean fronts. The flight paths of the airlift were significant, since Cuban forces were flown in from both Cuba and Angola, while immediate support requirements came from the USSR. There were about fifty supply flights flown in the first sixty days, tapering off as war material commenced to arrive by sea.[186] Over a fifteen month period, 220 ships delivered the bulk of the fighting requirements to ports on the Horn of Africa. Ro/Ro ships were used extensively in this operation, demonstrating their capability to transfer 2,000 tons of cargo per hour onto the unprepared docks which were available. This air and sea

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[185]IISS, Strategic Survey 1978, p. 13. See also Jacobsen, "Soviet Strategic Objectives for the 1980's," p. 135. And Whiting, Development of the Soviet Armed Forces, 1917-1977, p. 114.

[186]IISS, Strategic Survey 1978, p. 13.

support operation was well co-ordinated and conducted in a timely and orderly manner.[187]

These three overseas operations were conducted under low risk circumstances, in which other powers did not interfere with the air and sea activities. However, they are significant to this study, because they provided the USSR with increased experience and confidence in executing complex military operations at great distances from the homeland. They helped develop expertise at all levels of staff and command, from the officers of the various services who cooperated in planning and co-ordinating the operations, down to the crews of the aircraft and ships who practiced their skills in foreign environments. Perhaps most important, such successes serve to confirm in the minds of political leaders and senior military commanders that they can apply military power very effectively off the Eurasian land mass. As they perceive increased horizons for using that power, they may well find merit in employing it to fight their major adversary in a NATO-Warsaw Pact war on or near her own territory in North America.

## The Capabilities of Canada and the U.S. to Counter Rear Area Operations

Having established that the USSR has an extraordinarily large airborne capability and suitable strategic

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[187]Schmuckle, "Mobility as a Strategic Element," p. 104.

transport to deploy airborne forces to the Canadian North, does not by itself indicate what size force she might actually employ on such an operation. Nor, in fact, is there any indication that she even intends to assign any forces to that mission. Similarly, having indicated that the USSR has naval infantry forces, which through surreptitious methods, could seize Canadian ports at the outset of war does not suggest what size force could be assigned to the task or indeed, prove that the USSR has even considered the possibility. Without access to USSR war plans, it is not possible to determine either force deployments or intentions. However, what is known is that the USSR places considerable doctrinal emphasis on disrupting the NATO defense posture through rear area operations and in attacking weak spots in the NATO defense system.[188] Thus, attacking the weakly defended northern flank of the U.S. would be doctrinally sound, for it could have the effect of denying critical reinforcements to the NATO battlefield, either by distrupting the initial reinforcement program or by causing follow-on reinforcements to be re-directed away from the European front.

When assessing possible military contingencies, it is normal to determine what size force an opponent can deploy against you and then determine what size force you require

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[188]DOA, Soviet Army Operations, pp. 7-1, 7-4, 7-27, 7-28.

to counter him. On the conventional battlefield, a three-to-one rule of thumb ratio is often used, meaning that a battalion is required to successfully attack any enemy company. On the mechanized battlefield expected in Europe, this ratio has been increased to six-to-one.[189] Such ratios are of doubtful value, when attempting to determine what size force might be required to eliminate an enemy force lodged in the Canadian North, occupying a small port city or conducting raids from beach landing sites. Each situation would require a staff study to consider the size of the force, its weapons systems and the peculiar circumstances of the local geography. To attack a lodgement in an isolated location would require not only a combat force of measured size, but an array of supporting echelons to transport the force to the enemy and to sustain it in the ensuing engagement. Nevertheless, the three-to-one rule will be used in broad terms to demonstrate a weakness in North American ground defense. In reality, force ratios of much greater dimension might be required to dislodge an enemy from a well defended position.

Before Canada deploys its brigade to North Norway and augments her mechanized brigade in Germany to wartime strength, she normally has seven regular infantry battalions and an airborne regiment stationed at home.[190]

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[189]U.S. Department of the Army, Operations: Field Manual 100-5 (1976), p. 3-5.

[190]CISS, Proceedings of Spring Seminar 1979, p. 27.

Accordingly, these forces should theoretically be able to deal with eight company sized lodgements. However, once rapid deployment to Europe is completed, the four remaining regular battalions would be able to cope with only four company sized lodgements. Thus, if the USSR projected eight companies into Canada before the reinforcement of Europe began, she could be reasonably certain of tying up all available forces and preclude Canadian reinforcement of Europe for some time. Should the USSR deploy any forces larger than four companies to Canada after the Canadian forces have departed for Europe, then those unengaged hostile forces would be free to conduct their missions at will, subject to intervention by U.S. forces. Given the readiness state of the Canadian reserves, they are unlikely to be able to engage enemy forces, as trained combat units without first undergoing considerable training and equipping.

Any USSR military lodgements in Canada which were beyond the capability of Canadian forces to eliminate promptly would most certainly activate existing agreements for joint operations in defense of the continent. However, the U.S. capability to provide forces to counter USSR operations in Canada would depend on the status of her European reinforcement program and any concurrent contingencies such as a Persian Gulf deployment. Also, a critical factor in the U.S. reaction capability would be the availability of airlift to move her forces to isolated

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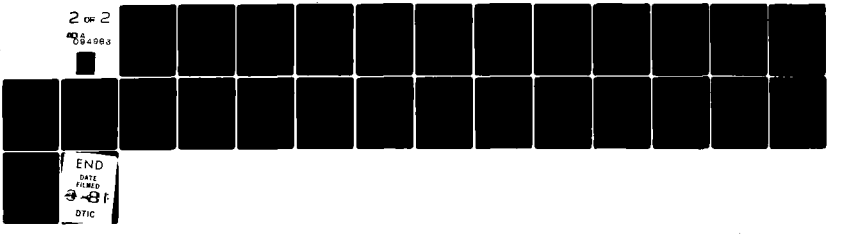

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parts of Canada. The current program to upgrade the U.S. air transport fleet by 1982 has the objective of being able to fly a five division force to Europe in ten days. Consequently, any diversion of airlift to carry forces and equipment to the northern flank would be at the expense of the European reinforcement flow, if that operation had not yet started or was still underway. Thus in rough terms, every U.S. division diverted in North America is one fewer division which the USSR would have to face in Europe.

Of the ten division Active Army force currently stationed in the U.S., six are armored or mechanized divisions.[191] Since five divisions are earmarked for the rapid reinforcement of Europe and since the emphasis there is on mechanized warfare, it is likely that five heavy divisions would be designated for that role. On the other hand, fighting in the far north and in remote locations in Canada would require primarily light infantry, supported in some cases with armored or mechanized elements. Accordingly, the four light divisions less suitable for Europe would be appropriate for the Canadian environment. Assuming that each of these four divisions has its full complement of eight or nine infantry type battalions,[192] the

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[191]DOD, Report to Congress for FY 80, p. 141.

[192]U.S. Army Command and General Staff College, Organizational Data for the Army in the Field: RB 101-1 (Fort Leavenworth, Kansas USACGSC, 1979), pp. 5-1, 5-7, 5-9.

total force could theoretically handle about twelve battalion sized enemy lodgements. However, if a U.S. contingency force which includes the airborne and air assualt divisions, is deployed to the Persian Gulf before the USSR lodgements occurred, then the two remaining light divisions could theoretically counter six battalion sized incursions.

This very rough mathmatical exercise assumes that the air transportation would be available to move U.S. forces and equipment to distant locations in Canada. Such an assumption becomes unrealistic, if a Persian Gulf operation were taking place and if the reinforcement of Europe were underway. Both of these eventualities are feasible particularly in light of the recent U.S. announcement that she will fight in the Gulf if necessary and the U.S. Government acknowledgement that a war in the Gulf area could well expand to the European front.[193]

In addition, this mathmatical exercise ignores the tremendous psychological impact on the U.S. public, were it informed that USSR forces were conducting military operations on its northern border. Not only would there be a problem of allocating sufficient forces to destroy any hostile lodgements, but a great public outcry could be expected demanding assured protection at home. This situation might not be unlike that faced by President Lincoln as

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[193]"Soviets Warned of Gulf War Risk," The Kansas City Star, 31 January 1980, p. 2. See also "Brown Warns Soviets on War in Gulf," The Kansas City Times, 15 February 1980, p. A2.

a result of General Jackson's Shenandoah Campaign in the early years of the Civil War. Jackson's small force was able to draw a disproportionately large army away from the Union's main effort in eastern Virginia by maintaining a continuous threat in an area northwest of the national capital. Lincoln was compelled to disperse so many forces to provide a type of rear area security that he was unable to pursue his main objective.[194] Even minor penetrations of North America have created alarm in the past. For example, in 1942 when a diversionary force of 15,000 Japanese soldiers occupied isolated islands at the extremities of the Alutians, an expensive U.S. and Canadian land, sea and air contingent of some 100,000 was despatched to eliminate it.[195] More recently, the revelation that a USSR combat brigade existed in Cuba produced a great public demand for action, to which the President responded by creating a Caribbean task force headquarters,[196] perhaps to dramatize U.S. preparedness for military action if necessary. Accordingly, a U.S. President faced with multiple USSR

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[194]Colonel E. G. Keogh, Shenandoah 1861-62 (Melbourne, Australia: Wilke & Co. Ltd., 1954), pp. 21, 80, 140.

[195]G. R. Lindsey, "Strategic Aspects of the Polar Region," Behind the Headlines, (May 1977), p. 3.

[196]"Senator Cites Seriousness of Soviet Troops in Cuba," The Kansas City Star, 7 September 1979, p. 1. See also "Brass Back Carter on Cuban Strategy," The Kansas City Times, 4 October 1979, p. 3D.

penetrations of North American territory could be expected to have some very difficult decisions to make under extreme public pressure for homeland security.

The complexity of his decisions would depend on the extent and nature of the enemy penetrations and the state of U.S. military deployments. If two divisions were already in the Persian Gulf and the five division force package already in Europe, the President would have only three ready divisions at his disposal. In a short warning scenario, the Reserve Components would not provide a reliable backstop for home defense, for in that situation the decision to execute rapid reinforcement and to mobilize could very well occur about the same time. This would result in an interval of at least several weeks from the point in time when the bulk of the Active Army forces would have departed for overseas, until the time when reserve units would achieve even marginal levels of operational readiness. This condition could be expected to preclude any additional reinforcement of Europe by remaining Active Army units until home defense was assured. If the reinforcement program were still underway, the need to reassign part of the trans-Atlantic air transport for north flank deployments and part of the reinforcement force for home defense could well become a matter of overwhelming importance. The trade-off dilemma could include: how to continue support to the Gulf, how to reinforce Europe, how to counter penetrations in Canada and how to provide visible

defense of the homeland. The paucity of resources to cope with all these concurrently would have grave ramifications for the defense of Europe.

There are many possible combinations of lodgement locations and force size, which the USSR could execute to put the U.S. President in such a dilemma. By using approximately fifty percent of her strategic air lift, the USSR could conceivably transport twelve battalions in one lift to undefended airfields in northern Canada and by using some combination of disguised merchant and fishing vessels could deposit a similar number of naval infantry units on scattered, undefended locations around the Canadian coast. Should the USSR exercise either one of these options at the outset of a short warning war, she could keep four U.S. divisions and all Canadian forces fully occupied trying to extract them. However, a smaller number of USSR units could achieve the desired result of unravelling the reinforcement program, particularly if U.S. forces were already in the Persian Gulf. Indeed, by using about twenty-five percent of her strategic life, she could insert six battalion sized units by air and employing six disguised Ro/Ro ships, she could put ashore the same number of naval infantry units. While these numbers represent a small part of the USSR lift and force resources, their presence would neutralize Canadian reinforcement capability and seriously degrade that of the U.S.

These calculations serve only to give the order of magnitude of USSR capabilities for power projection onto North America and a rough estimate of the size of response required by the U.S. and Canada to deal with lodgements. It may well be impractical or impossible to react to each lodgement simultaneously. Indeed decisions on priorities and sequences of counter action would probably be necessary. The use of bombers and attack fighter planes may be the appropriate response in cases where lodgement forces present well defined targets. They may not be in situations of lodgement in population centers, where enemy locations are uncertain. Some penetrations could even be ignored for a time, if they were not perceived as an immediate threat. However, in virtually all cases, ground forces would be required ultimately to mop up or contain them.

The USSR intends to interdict the North American reinforcement of Western Europe in the event of a NATO/ Warsaw Pact war. Moreover, she is doctrinally oriented to rear area operation, well aware of the effect such operations can have in disrupting an enemy's defense posture. The USSR has gained considerable experience in conducting complicated air and sea operations and in projecting forces into low risk areas at great distances from her homeland. She currently has suitable fighting units and the necessary transportation means to effect multiple penetrations of

Canadian territory. Canada's air and sea defenses are vulnerable to surprise penetrations and her land forces are sufficient only to cope with minor hostile lodgements. The U.S. could rapidly deploy forces to her northern flank to counter USSR incursions there, but only at the expense of providing timely reinforcements to the crucial central front in Europe.

## The Force Ratio Incentive

The factor of force ratios might well provide the USSR with the incentive to conduct extensive rear area operations in Canada. As indicated above, the conventional rule of thumb holds that an attacker must mount three times the combat power possessed by the defender in order to defeat him. This ratio has been increased for Europe. Because of the nature of the defense there, the attacker must employ six times the combat power of the defender to achieve a high probability of success. To eliminate USSR lodgements in North America, continental forces would be the attackers. To halt a USSR attack in Europe, North American forces would be defenders.

The force ratio of six-to-one has very significant implications for the USSR, in terms of the amount of conventional combat power which she must assemble to break through NATO's forward defenses. The more depth which U.S. reinforcement divisions add to those defenses, the greater

the cost to the USSR in momentum lost and casualties sustained. Since USSR forces in Eastern Europe are postured for a short, fast moving war, their chances for a quick victory or indeed, any victory at all would depend upon their ability to rapidly overrun NATO defenses in early attacks. In simplistic terms, for each additional U.S. reinforcement battalion positioned to block an attack, the USSR must mass the combat power of six battalions to achieve success. Thus, two additional U.S. battalions would require the USSR to concentrate twelve more attacking battalions, three U.S. battalions would require the combat power of eighteen attacking USSR battalions and so on. The firepower of defensive weapons is such that the USSR could be expected to suffer very heavy attrition in successive attack undertaken.[197]

On the other hand, for each U.S. battalion which does not arrive in time to block a critical USSR avenue of approach, the USSR avoids having to mass the additional six-to-one combat power needed to maintain the momentum of her offensive. To that end, relatively small USSR forces engaged in effective rear operations in Canada would have a magnifying affect on the Central European battlefield. Indeed, each USSR battalion in Canada which succeeded in keeping three U.S. reinforcement battalions occupied in an

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[197]Edward N. Luttwak, "The American Style of Warfare and the Military Balance," Survival (March/April 1979), pp. 58-59.

attempt to dislodge it would save the USSR from having to concentrate the equivalent of eighteen battalions against those same U.S. forces in Europe. Certainly, any USSR force operating in Canada might be sacrificed, because of the difficulty in extracting it. However, for each such battalion lost, several times that number of USSR units would be otherwise attrited in Europe, while attacking the U.S. reinforcement battalions not diverted from their rapid deployment missions.

The ratios described above are certainly not absolute. It can be argued that the actual size of attacking forces would depend on many different local circumstances. Nevertheless, these ratios *do* represent the magnitude of the advantage which could accrue to the USSR in Europe by a small investment of forces in Canada. Although the size of U.S. forces that might become urgently required for immediate home security cannot be estimated in relation to USSR operations to the north, it could be expected that this additional consideration could only increase the advantages for the USSR. What is clearly evident, is the fact that rear area operation in Canada would be a significant combat multiplier for the USSR should she attempt to achieve a quick decision in Europe.

# CHAPTER V

## CONCLUSION

From his extensive study of warfare, Liddell Hart reveals that on many occasions in the past, resourceful and imaginative military strategists have achieved decisive victories against formidable opponents by employing an indirect approach. Such an approach has involved an unexpected maneuver, which neutralizes the opponent's well laid plans and preparations for battle and which throws him physically and psychologically off-balance. Having distracted the opponent from his main objective and having compelled him to disperse his forces at a critical moment, the commander with the initiative then rapidly exploits the disorientation of his opponent to achieve a swift decision.[198]

The current perception that a conventional attack against North America is remote makes NATO vulnerable to a strategy of the indirect approach. Indeed, if as part of a grand strategy, the USSR were to execute multiple penetrations of Canadian territory in conjunction with a surprise

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[198]B.H. Liddell Hart, Strategy, (London: Faber and Faber Ltd.), pp. 325-329.

attack in Europe, NATO could well find itself experiencing the physical and psychological effects indicated by Liddell Hart. First, North Americans would acquire an immediate concern for their own defense. Second, an unexpected, high priority, continental defense requirement would arise, disrupting rapid reinforcement plans and resulting in a dispersion of forces critical to Europe's northern and central fronts. Finally, having thus thrown NATO off-balance, the USSR and her allies could seek a swift decision on the European battlefield.

The USSR's massive investment in nuclear and conventional military power has not only upset the NATO-Warsaw Pact balance in Europe, but it has global implications which directly affect North America. With respect to NATO, there is a perception that having lost its nuclear weapons advantage, the West must now rely on larger conventional forces in Europe in order to deter, or if necessary, halt a Warsaw Pact attack. The role which nuclear weapons might actually play in such a conflict is both uncertain and controversial. However, from the NATO point of view, the nuclear threshold is to be avoided by providing adequate conventional means from the outset. North America has committed itself to provide a critical part of those means in the form of rapid reinforcements.

With respect to other areas of the world, there is a perception that the USSR is aggressively seeking to expand her influence. An immediate area of concern is the Persian

Gulf. Recognizing that a strong USSR influence in the Gulf would put vital Western oil supplies in jeopardy, the U.S. has indicated that she is prepared to confront the USSR militarily, if she attempts to gain control of the region. This challenge acknowledges that a U.S. - USSR confrontation there could well spread to Europe and other areas. Accordingly, if the need arose, the U.S. could be expected to deploy fighting forces to the Persian Gulf. Moreover, if the conflict did spread, the U.S. and Canada could be expected to fulfill their rapid reinforcement commitments to NATO.

Among the increasing military capabilities of the USSR is her ability to project conventional forces to distant locations overseas. However, at this point in time this projections capability is considered suitable only for low risk environments. It would appear that North America does not consider itself in that category, since there has been no perceptible public concern that continental security might be at risk in the event of conventional war with the USSR.

In fact, there ought to be concern, because once the U.S. and Canada respond to their overseas commitments, North America does become vulnerable to the USSR's power projection capability. Presuming that NATO commitments are met, the bulk of the ground and tactical air power on this continent is rapidly transferred to Europe. If a concurrent conflict exists in the Persian Gulf or in another

vital area, the rundown of operationally ready combat forces is even more complete. To this situation must be added the fact that continental air defense has significant gaps both in terms of surveillance and interception capabilities and coastal defense of the northern half of the continent is less than assured.

Once the regular armies and tactical airforces deploy overseas, home security would of necessity have to fall on the shoulders of reserve forces. However, the current state of reserve readiness in both the U.S. and Canada is such that these forces could not be relied upon to assume the defense of the continent within the time frame that regular forces might be compelled to abandon it for contingencies overseas.

It would be irresponsible to assume that the USSR would not exploit weaknesses in NATO's defense posture, because the vulnerability appears so far removed from the overseas locations, where the decisive battles are expected to be fought. Rather, it would be wise to assume that the USSR would attempt to exploit any opportunity, where there is considerable advantage in doing so and for which she has the necessary capability. The conduct of rear area operations at both strategic and tactical levels is a basic element of USSR offensive doctrine and she maintains forces to perform those roles. Moreover, she has the means to project these forces through the gaps which exist in North America's air and sea defenses.

To deny the USSR the opportunity to execute a surprise projection of conventional forces into Canada in conjunction with a European conflict requires first, a perception that such a threat is credible, and second, the foresight to undertake appropriate countermeasures. This study has sought to establish the validity and implications of the threat: The specifics of what would constitute appropriate countermeasures are beyond the scope of this thesis. Nevertheless, several thoughts on necessary measures will be suggested.

An important aspect of perceiving the threat is to view the geographical relationship of the USSR and Canada on a globe rather than on a flat map. From a polar perspective it can be seen that Canada's lengthy northern frontier is as close to the USSR as it is to the inhabited belt which extends across southern Canada and in some areas the USSR is closer. While the Artic wastes may be a barrier to surface travel, they are not an obstacle to the rapid movement of military forces by air. Given the speed of modern military transport aircraft, it is possible to ferry soldiers several thousands miles by air in about the same time it takes to road-march them a hundred miles in mechanized vehicles. Accordingly, Canada's northern rim is perhaps no further in flight time from airfields in the USSR than the West German border is in road-time from forward USSR bases in East Germany. Thus in a sense Canada

has a NATO front with the USSR and because of the paucity of military forces in the north, it is an exposed one.

If it is conceivable that the Canadian North could be a battlefield in a NATO-Warsaw Pact war, then it is necessary to provide the region with adequate forward defenses. These defenses must be such that there would be assured detection of approaching hostile aircraft and the means to shoot them down before they could carry airborne forces to northern airfields, communications sites and strategic oil and gas facilities. Once USSR access were gained, and follow-on supplies and air defense systems flown in, lodgement forces would be postured for leapfrog operations to the south. The necessary countermeasures might include increased polar surveillance by satellite and Airborne Warning and Control System aircraft. The shoot-down response might be provided by northern based interceptors covering access routes, air defense systems covering airfields suitable for landing hostile forces or some combination of both.

The coastline of Canada must also be rendered inaccessible. To that end the ports and other suitable entry points for shipborne lodgement forces, need close-in protection by maritime forces which are exclusive of those committed to NATO duties on the high seas. This requirement includes having the capability both to detect potentially hostile ships in or approaching Canadian waters and to sink them as necessary. While there may well be an

overlap of functions between coastal defense and anti-submarine operations, the situation should not exist where available naval resources are capable of handling only one such function at the exclusion of the other.

One solution to closing the access gaps and having more adequate counter lodgement forces might be to consolidate Canada's entire military effort at home and task her forces exclusively with continental security. This would allow her to look after her own sovereignty, avoid the dispersion of her relatively small NATO contingents over two separate fronts in Europe, and help reduce the possibility of critical U.S. reinforcement forces being diverted by USSR operations on her flank. However, the realities of interdependent political, economic and defense considerations in the North Atlantic Community might well make such a solution impractical.

Another solution might be to increase the size of the regular forces of both Canada and the U.S. to the extent that they could meet their overseas commitments and have the combined residual forces necessary to provide adequate continental defense. This would be an expensive proposition and require the public to recognize the need for considerably larger regular forces in peacetime than exist today.

A less expensive alternative might be to focus on the reserves as the main resource for continental defense. If it is in the national interest of the U.S. and Canada to

rapidly dispatch such a large portion of their regular military forces overseas to ensure a favorable outcome of a crisis somewhere else, it is certainly in the most vital interest of both nations to ensure their homelands remain secure. Undertaking this latter responsibility is one with which citizen soldiers ought to feel comfortable. In the case of Canada, naval reserves might man coastal patrol vessels, airforce reserves train on high performance fighters and army reserves train for rapid reaction tasks in the north and coastal regions. To assist in the defense of her flank, the U.S. might specifically designate reserve units as rapid reinforcement forces for that region. However, if reserves are to be effective replacements for regular forces, it is critically important that they be equipped, trained and manned to a high standard.

If it is not possible under conditions of voluntary enlistment to create reserve forces of the required size and with the appropriate degree of readiness, it might be necessary to resort to compulsory reserve service, with conscript employment restricted to North America. Indeed, Canada found it necessary to implement a similar measure in 1940 some months after her regulars and volunteers had commenced deployments overseas.[199] While the political

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[199]Colonel C.P. Stacy, Six Years of War: The Army in Canada, Britain and the Pacific, Vol. 1 (Ottawa: Queen's Printer, 1957), pp. 118-119.

ramifications of instituting reserve conscription in peacetime might be a considerable deterrent to government action, it must be fully recognized that if the necessary military resources do not exist in peacetime to counter the USSR's capability for very rapid offensive operations, they cannot be created once a crisis is underway.

Once the line is crossed and NATO is at war, there will be no time to recruit the forces needed to fight the first and perhaps deciding battles overseas, while providing the citizens of North America with the security they now believe they have. Whatever solution might be most practical, there must be no low risk option available to the USSR in North America, which could be exploited for the purpose of diverting reinforcements from their crucial missions in Europe. To ensure that such an option is not perceived, deterrent forces must be assigned to the North American front with the USSR, which appear as credible as those designated for NATO's European front. There is no substitute for a sound all-around defense.

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