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This memorandum lays out a plausible Soviet approach to the problem of securing control of the Arctic Ocean theater of military action (TVD) during a war fought entirely with conventional weapons. In doing so, the memorandum focuses primarily on the strategic aspects of the problem, highlighting those aspects of the Soviet solution to it that by most conventional reckonings may seem unorthodox, but which effectively compensate for some of the Soviet Navy's main weaknesses.

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RESEARCH MEMORANDUM

SOVIET MILITARY OBJECTIVES IN THE ARCTIC THEATER AND HOW THEY MIGHT BE ATTAINED

Charles C. Petersen

A Division of CNA Hudson Institute

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1. Enclosure (1) is forwarded as a matter of possible interest.

2. This Research Memorandum discusses the USSR's wartime objectives in the Arctic Theater of Military Action (TVD), and lays out a plausible Soviet strategic approach to the problem of attaining them during a war fought entirely with conventional weapons. The memorandum argues that the Soviets believe it necessary to gain control of the entire Arctic TVD--an area substantially larger in their definition than that commonly designated in the West, reaching as far south as the Greenland-Iceland-Norway "Gap," the Canadian Arctic passages, and the Bering Strait. These "choke points" and adjacent littorals such as Norway--all of Norway, not just its northern end--will play a key role in determining the outcome of the struggle for mastery of the theater, and the memorandum argues that the Soviets will attempt their seizure and blockade as the war opens.

3. This memorandum is disseminated not as a substitute for official estimates. Rather it is offered as a plausible alternative, and deserves consideration by U.S. planners who wish to gauge the robustness of current and future U.S. plans. A logical next step in that process would be an investigation at the tactical level of the feasibility of this design from the Soviet point of view and the options open to the U.S. and its allies to counter.

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SOVIET MILITARY OBJECTIVES IN THE ARCTIC THEATER AND HOW THEY MIGHT BE ATTAINED

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ABSTRACT

This memorandum lays out a plausible Soviet approach to the problem of securing control of the Arctic Ocean theater of military action (TVD) during a war fought entirely with conventional weapons. In so doing, the memorandum focuses primarily on the strategic aspects of the problem, highlighting those aspects of the Soviet solution to it that by most conventional reckonings may seem unorthodox, but which effectively compensate for some of the Soviet Navy's main weaknesses.

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INTRODUCTION

The first recorded Arctic explorers reached the Kola Peninsula in the ninth century, and Russian fur traders were plying the Barents and White Seas by the 11th century. But the region's inhospitable climate precluded its becoming a significant theater of war until our own century, almost a millenium later—and even then neither world war saw the fighting extend over more than a fraction of its area, or have a radical effect on the situation in other theaters.

Several postwar developments, however, have ensured that the Arctic theater will occupy center stage in any future world conflict. The nuclear submarine, for one thing, has eliminated the Arctic icecap as a barrier to the strategic mobility of the superpower navies, permitting the side that controls the theater to exploit its central position between the North Atlantic and North Pacific Oceans. The intercontinental bomber and intercontinental ballistic missile, for another, have made the Arctic region practicable as the shortest line of approach from one superpower to the other. Third, the submarine-launched ICBM[1] has enabled one of the superpowers to deploy its strategic submarines in the theater, thousands of miles closer to home, where it can more readily be protected from the other superpower's efforts to destroy it. Finally, the general-purpose forces and the infrastructure that support this strategic reserve are also located in the Arctic theater. It should not surprise us, then, that the Soviets speak of the region's "exceptionally important military-strategic position."[2]

From these considerations it is apparent that the Soviet Armed Forces must carry out at least four tasks in the Arctic theater. First, they must seize control of the lines of communication linking the Arctic Basin with the North Atlantic on the one hand and the North Pacific on the other. Such control will enable Soviet Northern Fleet and Pacific Fleet nuclear submarines to reinforce each other without interference along interior lines of operations,[3] and compel U.S. Atlantic Fleet and Pacific Fleet submarines to travel to the Southern Hemisphere before they can reach each other's likely wartime operating areas in the Northern Hemisphere.[4] Second, they must intercept and destroy whatever aerial threats to the homeland appear over the Arctic horizon. In a conventional war, this means primarily air-launched (and perhaps also submarine-launched) cruise missiles; in a nuclear war, it means ballistic missiles as well. Third, they must provide for the security of the sea-based component of their strategic nuclear arsenal, which would remain fair game for enemy antisubmarine forces even in a conventional war (unlike its

land-based counterpart, which is accessible only to "silo-busting" nuclear missiles). And last—but by no means least—they must ensure the safety of the forces and infrastructure that support this strategic reserve.

For a theoretical foundation for its plans to carry out these missions, the Soviet Navy has revived the concept of command of the sea (*gospodstvo na more*), which the authoritative *Military Encyclopedic Dictionary* defines as "decisive superiority...in a sea or ocean theater of military action [*Teatr voennykh deystviy*, or TVD] (or part thereof) that assures the Navy of favorable conditions for its execution of basic combat tasks."[5] This concept had been one of the casualties of the early nuclear age: according to the General Staff Academy's 1965 *Dictionary of Basic Military Terms*, the term "command of the sea" had passed out of use in the Soviet Armed Forces.[6] Among the arguments used to reject the concept, Admiral Gorshkov tells us, was "the assertion that...hostilities had become short and decisive." After all, what should the Soviet Navy be doing in a nuclear war—"destroying the enemy, or trying to gain command of the sea and exposing itself to the risk of being destroyed before it can achieve its goals?"[7]

But by the dawn of the 1970s, the Soviets had lost their certainty that a nuclear war would be "short and decisive": on the contrary, it might last well beyond the initial nuclear exchange. And by the end of the decade, they had begun to prepare for the possibility that escalation to nuclear war might be avoided altogether, even in a conflict directly involving NATO and the Warsaw Pact. Today, most analysts agree, the Soviets hope to fight a war between the coalitions conventionally, from start to finish, neither moving themselves to escalate the conflict, nor giving the other side cause to do likewise.[8]

The remainder of this memorandum will lay out a plausible Soviet approach to the problem of securing command of the sea in the Arctic Ocean TVD during a general war fought entirely with conventional weapons. In so doing, the memorandum focuses primarily on the strategic aspects of the problem, highlighting those features of the Soviet solution to it that by most conventional reckonings may seem unorthodox, but which effectively compensate for some of the Soviet Navy's main weaknesses. There is no hard evidence, to be sure, for the scenario that follows. Nevertheless, it is consistent not only with sound military logic, but also with what Soviet military writings tell us about Soviet military thinking.

The purpose of this analysis is to suggest alternatives to some of the conventional wisdoms about Soviet strategy in the Arctic region—notions that may prove dangerous "when push comes to shove." The danger of such notions often lies in their very popularity, whatever their worth by any other yardstick; for it is precisely their ubiquity that will best inform the quest of an alert and crafty opponent for the unexpected in wartime. For this reason, Frederick the Great's advice to his generals remains as pertinent today as it was nearly two and a half centuries ago:

> Skepticism is the mother of security.... One falls into a feeling of security...through...lack of calculation concerning the intentions of the enemy. To proceed properly it is necessary to put oneself in his place and say: What would I do if I were the enemy? What project would I form? Make as many as possible of these projects, and above all reflect on the means to avert them.[9]

If this paper stimulates discussion of such alternative "projects," it will have served its purpose.

THE ARCTIC THEATER OF MILITARY ACTION

The boundaries of the Arctic TVD coincide with those of the Arctic Ocean as defined by the Soviet Ministry of Defense, but extend well beyond those conventionally accepted in the West. As figure 1 shows, the Soviet-defined boundaries circumscribe not only the central Arctic Basin but also the Norwegian Sea, Greenland Sea, Baffin Bay, and even the Hudson Bay—which in most Western accounts are treated either as marginal seas of the Atlantic Ocean or, in the case of the Hudson Bay, as internal Canadian waters.[10] More important, however, these boundaries show that the Soviets think of the Arctic TVD as an enclosed theater, access to which is controlled by a handful of relatively narrow passages whose combined width accounts for only a fraction (about 6 percent) of the theater's perimeter. As will become evident later, this outlook has conditioned Soviet thinking about the problems of gaining command of the sea in a number of significant ways.

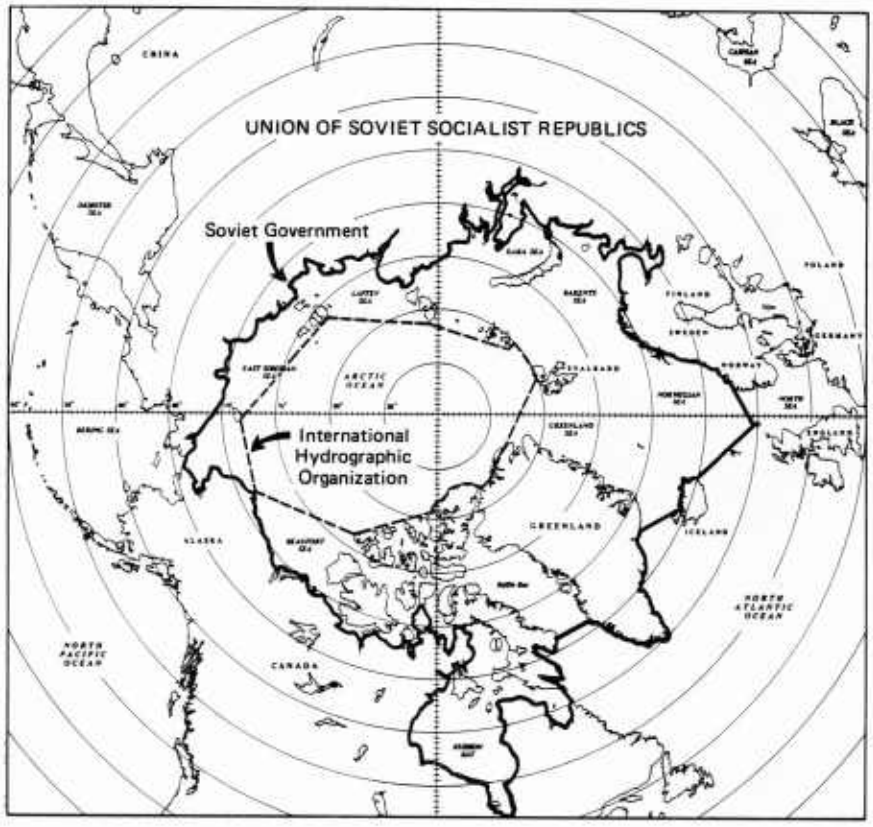

FIG. 1: ARCTIC OCEAN BOUNDARIES

BASIC PRINCIPLES UNDERLYING THE EFFORT

When the West thinks of command of the sea, it tends to conceive of it almost exclusively in terms of what naval forces do on the water. Although the West readily grasps how events at sea can affect the situation ashore, it does not often fully appreciate the reverse. To the Soviets, however, the outcome of events ashore is of crucial importance in winning command of the sea, and dictates the coordinated involvement of the other Armed Services in the effort. "The experience of the Great War for the Fatherland," writes Gorshkov in *Sea Power of the State*,

> showed that successful action by ground [forces]...and their capture of new coastal areas also contribute to winning command of the sea. An example of this was [our] attainment and consolidation of command of the sea...in the Black, Baltic, and Barents Seas as a result of operations carried out by ground forces jointly with the fleets. [Similarly,] the German [high] command sought mastery of the Black and Baltic Seas by capturing the Soviet Navy's bases from land.... From this we may conclude that gaining command of the sea depends both on the Navy's execution of the basic tasks assigned it, as well as on the overall course of the armed conflict as a whole.[11]

This statement has been echoed by representatives of the other armed services, and therefore should not be dismissed as a case of special pleading by the Soviet Navy. "In the years of the Great War for the Fatherland the spheres of action of the Armed Services tended to overlap," according to one of the Deputy Chiefs of the Frunze Academy, which trains Ground Forces officers. "Thus, the task of attaining command of the sea was then accomplished not just through the efforts of the fleets, but also through the implementation of a system of measures by the Ground Forces and the Air Forces."[12]

Success in attaining command of the sea will also depend on the outcome of the contest for superiority in the air, or "command of the air." For reasons that are as yet unclear, the two concepts—command of the sea and command of the air—become firmly associated only in the late 1970s, when Soviet naval theorists began to assert that the former was "unthinkable" without the latter.[13] While the entry for "command of the sea" in volume 2 of the *Soviet Military Encyclopedia* (signed to press on 20 July 1976) contains no reference to command of the air, the new *Military Encyclopedic Dictionary* (signed to press in January 1983) states flatly that "command of the sea simultaneously calls for command of the air."[14]

Finally, the effort to win command of the sea must begin at the outset of hostilities, relying on preemptive action that exploits groundwork already laid in peacetime.

> The experience of centuries of warfare shows that in some regions of ocean and sea theaters of military action [command of the sea] may devolve historically on one coalition of sea powers or even on one country, and be recognized by the opposing side and taken into account by the latter in planning and conducting its own combat actions. In the main [this applies to] internal or marginal seas.
>
> In other regions the groundwork for gaining command [of the sea] can be laid in advance.... At the outset of hostilities the side that has established those conditions gains command [of the sea] at the necessary moment and exploits this circumstance to perform subsequent tasks successfully.[15]

Specifically, this groundwork may involve "creating task forces and distributing them in the theater so as to assure them superiority of position" when the war begins;[16] "positioning bases, airfields, command posts, and the elements of a surveillance, communications, and early warning system in the theater in an operationally advantageous way;"[17] or "preparing straits and narrows zones in order at the outset of hostilities to prevent enemy surface ships and submarines from passing through."[18]

GAINING MASTERY OF THE THEATER

As this mention of straits and narrows suggests (and as the *Military Encyclopedic Dictionary's* entry for "Gaining Command of the Sea" confirms[19]) the choke points controlling access to, and egress from, the Arctic TVD will play a central part in any Soviet effort to gain control of the theater.

One of the most popular, and most ill-considered, conventional wisdoms about the Soviet Navy is that the handful of straits and narrows lying athwart its path to the open ocean have somehow condemned it to an inferior geostrategic position.[20] That may have been true in the day of Peter the Great, when the challenge of wresting these choke points from foreign control was beyond the capabilities of the sailing navies and foot-marching armies of the time. On several occasions, indeed, the Russian navy was the victim of blockades aimed at bottling it up in its home-water areas.

Today, however, when the operational and strategic mobility of armed forces is measured in bounds spanning countries, not counties, the gateways to the Arctic TVD have become the maritime equivalent of defiles in land warfare—natural defensive positions, the key not only to the Soviet Navy's mastery of the seas behind them, but also to the ability of its nuclear submarine force to exploit the theater's central position in the Northern Hemisphere.* This might be one of the factors accounting for the keen interest Soviet military writers have shown in the role of straits and narrows in the history of maritime warfare. "The control of straits and straits zones," according to G. Morozov and B. Krivinskiy, "enables naval forces to maneuver rapidly between theaters, and to interdict the movement of [enemy]...ships to other areas of a sea or ocean TVD."[23] For example, after seizing Greece and Crete in 1941 "the Germans established control over the straits joining the Aegean and Mediterranean Seas.... As a result the Aegean became inaccessible to the Allied fleet. Using the airfields and naval bases on Crete and on other islands of the Southern Aegean Sea, the Axis armed forces succeeded in paralyzing the communications of their opponent in the Eastern Mediterranean to a considerable degree."[24] Similarly, "Germany's occupation in April 1940 of Denmark and Norway assured her of nearly complete control of the Baltic Straits zone. This enabled the *Wehrmacht* to cut the British Navy off from the Baltic (into which, for the first time in the history of war, not even its submarines could penetrate)" as well as to "improve conditions for the deployment of German naval forces into the Atlantic."[25] And in the future, say Soviet military theorists, the role of choke points in maritime

* A central position is of no avail if it affords no room to maneuver, and room to maneuver is what these maritime defiles will give the side that controls them. "The unquestioned advantages of the interior line of operations," as Helmuth von Moltke once wrote, "are valid only as long as you retain enough space to advance against one enemy..., gaining time to beat and pursue him, and then turn against the other.... If this space, however, is narrowed down to the extent that you cannot attack one enemy without running the risk of meeting the other who attacks you from the flank or rear, then the strategic advantage of interior lines turns into the tactical disadvantage of encirclement."[21] According to the Soviet strategist A.A. Svechin (1878-1938), it is only when operations on interior lines are conducted "on a strategic scale"—by "successively shifting the center of gravity of one's efforts from one theater of military action to another"—that such a "strategic advantage" is gained.[22] In the present instance the two theaters in question would be the North Atlantic and North Pacific Oceans.

war—including the passages into, and out of, the Arctic TVD—will be even more important:

> Since warfare of the future...may take on a global scope, various types of naval forces will need to maneuver between ocean theaters of military action. The role of straits such as the *Bering Strait*, the Drake Passage, *the straits of the Canadian Archipelago and others*—which have almost never before been utilized in maritime warfare—will then be considerably enhanced.
>
> Antiship missiles, modern mine weapons, long-range aviation, and advanced means of surface, subsurface and aerial surveillance have substantially increased the ability of navies to fight for straits, lay antisubmarine barriers, and impose blockades over enormous areas of sea and ocean theaters. Many regions never before regarded as narrows in the literal sense of the word may now become a zone of offensive blockade actions by combined armed forces cooperating closely at the operational and tactical levels.[26]

Almost certainly, then, the Soviets will attempt to impose a blockade of the Arctic Ocean's gateways—probably at the outset of hostilities—aimed at barring additional enemy forces from access to the theater. As this passage also suggests, antisubmarine barriers will be instrumental in this blockade; and to judge from other Soviet sources, naval mines will play a key role in these antisubmarine barriers. "Much attention is being given today to the development of mine weapons," began a recent article on mine warfare in the Soviet Navy's professional journal, *Morskoy sbornik*. "Their role has especially increased in barrier and blockade actions."[27] And according to another Soviet article on mine warfare, "the conduct of warfare to gain command of the sea presupposes offensive minelaying to combat enemy naval forces, and above all else submarines."[28]

The Soviets find mine warfare attractive for a number of reasons. On the one hand, mines "are simple, comparatively cheap to produce and use, yet highly reliable;"[29] on the other, "countermeasures against them entail the mobilization of considerable forces and resources."[30] They can be laid "covertly, regardless of sea state, ice situation, and hydrological and meteorological conditions, both before and during the war."[31] They are "continuously ready for action over a long period," and "require no maintenance after laying."[32] Even if the enemy no more than suspects the presence of a mine

danger, it will have "a powerful psychological effect" on him.[33] Mines "can be covertly developed, tested, serially produced, and stockpiled," and "are relatively immune to obsolescence."[34] In short, there is superior economy of force in the use of these weapons, for mines "will permit a considerable reduction in fleet striking forces [assigned to blockade duties], and in some areas their complete release and reassignment to other missions."[35]

Although estimates of the size of the USSR's stockpile of naval mines vary considerably,[36] it is believed to be the world's largest.[37] It may well also be the world's most diversified, with deep-water acoustic rising mines,[38] and underwater electric potential mines for use against submarines under ice.[39] What is more, most of the Soviet Navy's warships, bombers, and submarines are fitted for minelaying missions,[40] enabling the Soviets to employ their mines "massively at the war's outset," as their military doctrine prescribes,[41] in all the choke points controlling access to the Arctic TVD, including the straits of the Canadian Archipelago.*

A blockade of the theater's gateways will not only hinder enemy forces outside it from entering, but will also have a decisive effect on the forces already there. The "true aim" of the strategist, as Liddell Hart once wrote, "*is not so much to seek battle as to seek a strategic situation so advantageous that if it does not of itself produce the decision, its continuation by a battle is sure to achieve this.* In other words, dislocation is the aim of strategy; its sequel may be either the enemy's dissolution or his easier disruption in battle."[42] By menacing or cutting off the enemy's line of retreat—and endangering his lines of supply—a blockade will produce this very dislocation. It will be, in essence, the maritime equivalent of Napoleon's *manoeuvre sur les derrieres*, or "maneuver against the enemy's rear," whose object was to form "a strategic back-stop, or barrage..., a position offering natural obstacles..., a secure pivot from which to prepare a stranglehold for the enemy, whose instinctive tendency, when cut off from [his] line of retreat and supply, was to turn and flow back, usually in driblets, towards him."[43]

* Four narrow passages control all inter-theater movements through the Canadian Archipelago: The Robeson Channel (18 n.mi. wide), the Lancaster Sound (38 n.mi. wide), the Fury and Hecla Strait (7 n.mi. wide), and the Cardigan Strait (6 n.mi. wide). The first two are between 200 and 500 meters deep; the last two less than 200.

In order to exploit the Arctic TVD's interior lines, however, the Soviets must do more than just keep enemy forces out: they must also ensure that their own forces—their submarines in particular—are able to leave. Specifically, they must:

- Prevent enemy submarines from mining, or patrolling, the exits from the theater
- Prevent enemy ASW surface ships and ASW aircraft from patrolling these exits
- Stave off enemy aerial minelaying efforts.

A Soviet mine blockade could accomplish only the first of these three tasks; the remainder will require air superiority as a necessary condition of their fulfillment. And just as command of the sea is "unthinkable" in Soviet eyes without command of the air, so too is command of the air inconceivable in a maritime theater—as long as the Soviet Navy has no fleet of aircraft carriers—without control of adjacent shores. "Thus, in the first period of the Great War for the Fatherland," writes Yu. Bystrov, "when the overall situation on the southern strategic axis was developing unfavorably for us, the Black Sea Fleet bore heavy losses, until the correlation of forces in the air on the land front changed radically in our favor. An analogous situation obtained in the Baltic and Northern Fleets."[44] A recent Soviet assessment suggests where the "correlation of forces in the air" will have to be changed in the Arctic TVD today:

> Much attention is being given [by NATO] to...Greenland and Iceland, which are "blocking" the way out from the Arctic to the Atlantic Ocean. Taking this circumstance into account, the U.S. and NATO commands have established a number of military bases on these islands.
>
> Greenland is the world's largest island.... Most of it is covered by a glacier and is uninhabitable. Only a narrow strip of its rocky coast...is ice-free. On Greenland's western shore the U.S. command has built two air bases, including Thule, the largest [such base] in the Arctic....

> Iceland, a small island nation, also plays the role of...*an "unsinkable aircraft carrier"*.... The U.S. has a major air base at Keflavik, 50 km west of Reykjavik.... [T]he *main task of American forces in this country is to operate the Greenland-Iceland-Norway antisubmarine barrier....*
>
> Norway is the USSR's northern neighbour.... Norway is in a favorable strategic position. From its territory the sea lanes connecting the Atlantic and Arctic Oceans can be controlled....[45]
>
> Strategists from the Pentagon have always considered...Alaska, which lies in the Soviet Union's immediate vicinity, to be an important staging area for lauching aggression in this region. The French military journal *Revue de Defense Nationale* has called it "the Gibraltar, eyes and ears of the Arctic."[46]

Thus, Norway – all of it, not just its northern end* – Iceland, and parts of the eastern and western coastline of Greenland, perhaps along with the Faeroes, Shetlands, and Orkneys, are probably marked for seizure in the war's opening *coup de main*. So too, very likely, is the Arctic TVD's Pacific gateway, the Bering Strait, including its eastern pillar, Alaska's Seward Peninsula, and nearby islands like Little Diomede and St. Lawrence. Of all these objectives, Norway has the strongest defenses, and consequently offers the greatest potential challenge to Soviet military planners. The possible shape of a Soviet attack on Norway therefore deserves more extended discussion.

The Conquest of Norway

Current plans for the defense of Norway rest on the assumption that the Soviets will in the first instance attack only the northern end of the country,[47] and Norwegian defenses are organized accordingly. Most (almost 85 percent) of the Norwegian Army's small standing force is stationed in Norway's two northernnmost *fylker* (counties) – Finnmark and Troms: a 500-man battalion in the Kirkenes area opposite the Soviet border; a 1,000-man battalion group in the Lakselv-Porsangmoen area; another battalion group at Harstad; a mechanized brigade in the Bardufoss area; and a company-sized unit in the

* South Norway forms not only the eastern hinge of the Greenland-Iceland-Norway "gap," but also the northern hinge of the Baltic Straits, and is therefore vital to the control of both.

Skibotn Valley. From the Lyngenfjorden to the Ofotfjorden torpedo batteries, mining stations and coastal artillery forts protect the seaward flank of these forces. As figure 2 will confirm, these dispositions are designed to repel an enemy main attack through the Finnish "wedge," while delaying secondary thrusts into Finnmark and warding off landings along the coast between Tromso and Narvik.[48] When mobilization is ordered these troops will be reinforced not only by two reserve brigades assembled locally, but also by two additional brigades flown in from South Norway.[49] Most of Norway's external reinforcements are likewise committed to,[50] and conduct annual exercises in,[51] North Norway.

A design that features a main effort in North Norway along these lines, however, is scarcely likely to appeal to Soviet General Staff planners for the simple but compelling reason that it has already been anticipated by the Norwegians. A thrust into North Norway would be met by an enemy firmly in position, his modest capabilities enhanced by the broken terrain, his will to resist stiffened by the predictability of Soviet behavior. And surely the Soviets are mindful, from their own experience in the Winter War with Finland, of "how rarely the possession of superior force offsets the disadvantage of attacking in the obvious way."[52]

A main effort at the other end of Norway, in contrast, may offer much better prospects for success, and should be considered as a possible alternative. Here the climate and terrain, although far from ideal, are less forbidding, and the "operational capacity"* by any measure greater. What is more, Norway's political and military nerve centers are here: the national capital, and near it the Norwegian Defense Command and Headquarters, Allied Forces Northern Europe (AFNORTH).

Above all, however, southern Norway is the "line of least expectation." For example, General Sir Anthony Farrar-Hockley, a former CINCNORTH, has written of its "relative inaccessibility to attack from Russia or other Warsaw Pact territory."[54] This is an assessment manifest, indeed palpable, in the tiny standing force deployed in this region: an understrength infantry battalion (the King's Guard), a rifle company, a tank company, a field artillery battery, and a platoon of tanks at each major airfield.[55] To the extent

* The Soviets define the "operational capacity" (*operativnaya emkost'*) of a given region as its "dimensions (width and depth), its geographic position..., its trafficability..., and the availability and condition of its roads, airfields and ports."[53]

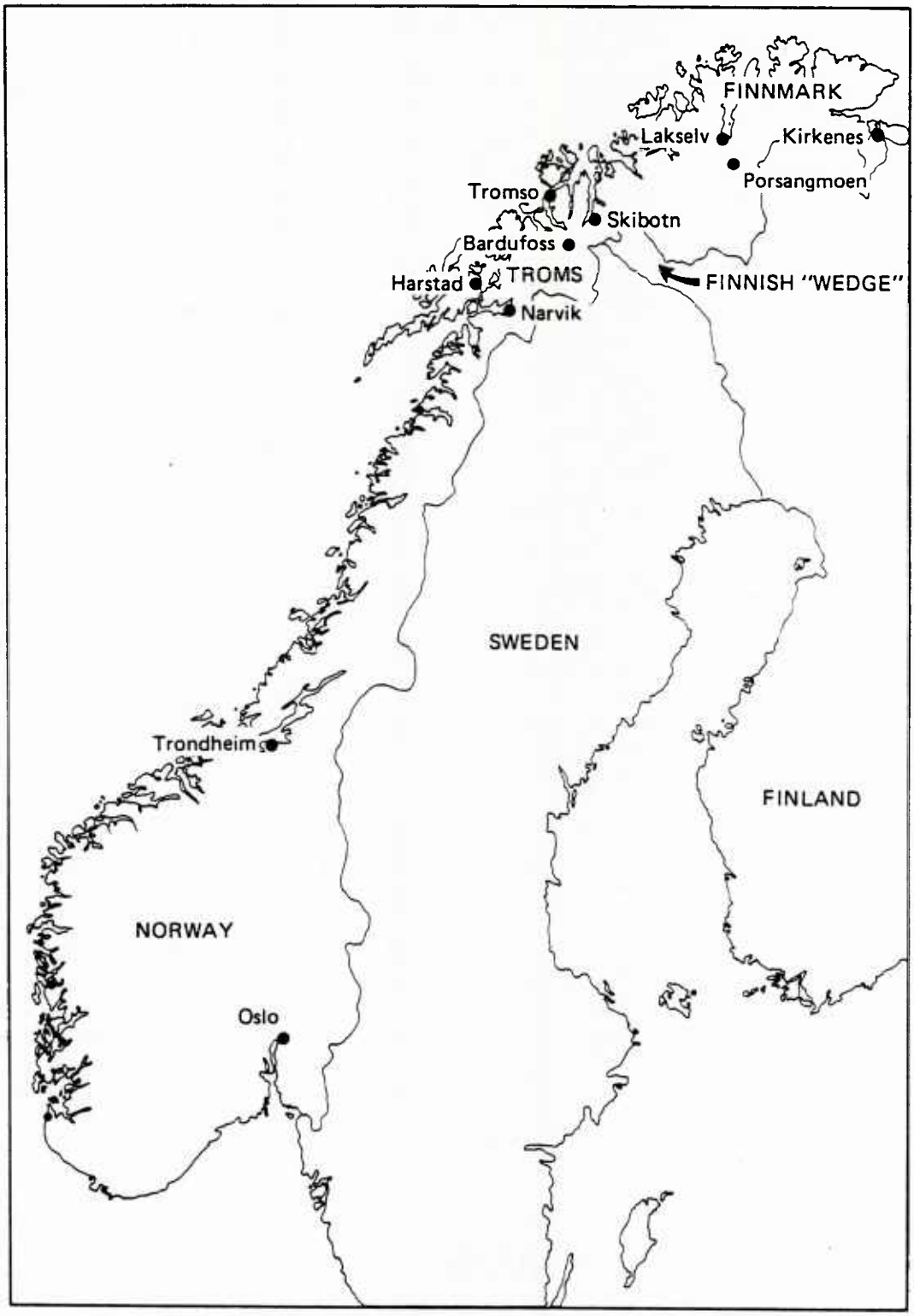

FIG. 2: THE DEFENSE OF NORWAY

that any threat to southern Norway is perceived at all, it is envisaged as developing only after the Soviets have occupied Denmark by combined overland and amphibious invasion, giving this region, where ten of Norway's 13 reserve brigades mobilize, ample time to prepare for a Soviet attack across the Skagerrak.[56]

Thus, the south of Norway may be vulnerable to the very kind of *coup de main* staged by the Germans 46 years ago against a Norwegian force also composed mainly of reservists. Then as now, the combination of a small standing force and a large reserve force[57] served as an open invitation to an attacker to forestall Norway's mobilization. On 9 April 1940, six landing detachments (fewer than 9,000 men all told) captured Norway's capital and chief ports, while elements of an air-landed battalion seized Oslo's Fornebu airport and a parachute company took Sola airfield at Stavanger. From these airfields redeployed *Luftwaffe* units were able eventually to play a key role in frustrating Allied attempts to thwart the *Wehrmacht's* occupation of the rest of the country. A similar airborne and seaborne *coup de main* forced the capitulation of Denmark on 9 April after only token resistance, giving the Germans air and sea control of the Skagerrak, and securing their lines of communication with Norway.[58]

The Soviets have made a detailed study of *Weseruebung* (as this operation was code-named), and the lessons they have drawn from it are of considerable interest. According to the introduction to a 1977 Soviet book on World War II in Scandinavia,

> The *Wehrmacht's* operation against Denmark and Norway...evokes the most contradictory interpretations in the Western military and historical literature. Some specialists qualify it as a reckless adventure, an operation completely at odds with the canons of warfare, founded only on naked risk. Others categorize it as a "brilliant" and highly instructive campaign, believing that it "will always have a special place in the history of war and arouse great interest."[59]

As the conclusion to the book's analysis of the operation makes plain, the Soviets agree with the second group of specialists:

> Operation *Weseruebung* was an example and distinctive demonstration of a carefully planned, resolutely executed combined operation by three armed services. Here, for the first time in the war, attempts were made to create a unified command

under General [Nikolaus von] Falkenhorst, a representative of the Army. It is true that General [von] Falkenhorst failed to secure complete unity of command. He was...only "first among equals." The naval and air force commanders received orders directly from their service commanders-in-chief.... But despite this, the different armed services cooperated during the operation almost without friction....

In addition, the maritime character of this beachhead and the area's difficult climatic and natural conditions required cooperation of a particularly precise and diverse form. Each armed service was compelled to perform several tasks simultaneously.... All this expanded and complicated the problems of cooperation. Despite a number of oversights, the German fascist command in the main succeeded in accomplishing such a difficult task as the cooperation of the different armed services....[60]

In the Norwegian operation the air force emerged as an independent armed service, capable of carrying out major tasks. It was here that the German air force for the first time entered a head-to-head contest with superior forces of the British navy, and the experience showed that command of the air can under certain conditions compensate for a lack of surface ships. Here also efforts were made for the first time to substitute air lines of communication for sea lines of communication. This practice set a new direction in the art of war and revealed the great promise of transport aviation in landing operations.

Airborne forces were also utilized in new ways: not only did they perform a diversionary task as in Germany's attack on Poland, but they also effected the capture of airfields and some cities. Later on, the fascist German command was to make use of this experience in the conduct of larger-scale operations....

Thus, Operation *Weseruebung* was a distinctive demonstration of new methods of warfare made possible by the latest achievements of technology and by the rapid development of the newest armed services and of military thought as well.[61]

A Soviet invasion of Denmark and Norway, then, may well bear a strong resemblance in most of its essentials to Operation *Weseruebung*. Like the Germans, the Soviets would rely heavily on speed, deception, precise timing and shock action to forestall the Danish and Norwegian mobilizations* and the arrival of assistance from the NATO allies. The main ports, air defense airfields, and naval bases in Denmark and southern Norway, the international airports serving Copenhagen, Oslo and Stavanger, and the principal NATO headquarters located in both countries would probably all be targets for capture in the opening stroke. (As figure 3 shows, many of these objectives are collocated.)

Tactically, a number of approaches might be used to secure these objectives. One alternative that deserves further study is suggested by the above assessment of *Weseruebung* and past Soviet practice. In this scheme the invasion would be spearheaded by airborne and seaborne assault teams conveyed to the landing areas by Soviet civilian means of transportation to disguise their approach. In the opening moves of the invasions of Czechoslovakia and Afghanistan, for example, the airports at Prague and Kabul were seized by *spetsnaz* teams flown in by Aeroflot,[64] which also has scheduled air service into Copenhagen, Oslo, and Stavanger.[65] An analogous ruse, with *spetsnaz* teams concealed aboard roll-on/roll-off (RO/RO) cargo ships, could be used to capture some or all of the ports and naval bases.[66] From these airheads and beachheads helicopter-borne assault groups could deploy to seize major mobilization centers. With the way thus cleared for a massive airlift and sealift, covered by fighters flying from the captured airfields, the buildup of occupation forces could begin.[67] These opening moves would be timed to coincide with overland advances into Finnmark, Troms, and Jutland, whose chief purpose would be to draw NATO's attention away from the focus of main effort.

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* Denmark, like Norway, is relying on an extensive mobilization system for its defense. Denmark's reserves, however, are said to "lack appropriate training, equipment and supplies to engage enemy armored, amphibious or airborne units."[62] Moreover, the standing forces available to the Commander, Allied Forces Baltic Approaches (COMBALTAP), who is responsible for the defense of Denmark and Schleswig-Holstein, are deployed primarily to meet a Warsaw Pact drive across the inter-German border,[63] leaving the vital northern Jutland area and the Danish islands virtually exposed to airborne and amphibious attack.

FIG. 3: POSSIBLE SOVIET OBJECTIVES IN NORWAY AND DENMARK

Another possible line of approach to Norway runs through southern Sweden, an alternative envisaged by some Soviet contingency plans in World War II,[68] and proposed by some writers to account for the USSR's apparent interest in reconnoitering Swedish waters today.[69] On the whole, however, this idea seems unattractive from the Soviet point of view. Although this approach may be the shortest route to southern Norway, it is also one the Swedes are expecting the Soviets to take, and are preparing their armed forces to meet.[70] Thus, an attempt to use southern Sweden as an invasion route would quickly run into strong resistance, giving the Norwegians time to redeploy their forces to the threat axis.

From the Soviet perspective, indeed, it makes more sense to aim at persuading Sweden to stay out of the war altogether, an objective which is better served by her strategic encirclement (i.e., by the occupation of Denmark and Norway) than by moving on her directly.* Even if the Soviets were convinced that occupation of Sweden would sooner or later be necessary, the surest way to dislocate Swedish resistance is to take this same indirect approach through Denmark and Norway.

ACHIEVING SURPRISE

Clearly no venture such as the one we have outlined will succeed without tactical, operational, and even strategic surprise. "But while the wish to achieve surprise is common and, indeed, indispensable," according to Clausewitz, "surprise can rarely be *outstandingly* successful. It would be a mistake, therefore, to regard surprise as a key element of success in war."[72] In a sense, the historical record would seem to bear Clausewitz out. As a number of studies have shown, the veil of secrecy with which aggressor nations have tried to cloak their preparations for war has rarely proved to be completely impenetrable.[73] And yet, as Richard Betts points out, "numerous and disparate cases reveal that attempts to achieve military surprise in the initial phase of war usually succeed."[74] Surprise *can* be outstandingly successful,

* Perhaps not accidentally, the effect of the German conquest of Norway on Sweden's behavior in World War II has not escaped Soviet notice. "The appearance of Hitler's troops at the Swedish border led to a sharp change in neutral Sweden's domestic and foreign policy," states the official Soviet history of the war. "This country's ruling circles began to tilt toward the fascist Reich in their foreign policy, and allowed [German] freight and troops to pass through Swedish territory to the Narvik area and to Northern Finland."[71]

even when the victim has had some warning, a fact of which the Soviets are well aware.[75] There are at least two reasons for this, both of them rooted in the psychology of the victim, and both of which can be, and have been, exploited by aggressor nations in wartime.

Misperception

The first is that the victim's leaders either fail to recognize, or refuse to believe, information pointing to the enemy's intentions, not because of incompetence or treachery, but because the data do not comport with the "strategic assumptions" these leaders bring to bear in assessing the validity of the warnings. The solution is not to be found, unfortunately, in "just sticking to the facts," for the problem lies at the core of the cognitive process itself. "Facts can be interpreted, and indeed identified, only with the aid of hypotheses and theories," Robert Jervis has written.[76] Decision makers tend more readily to recognize and accept as valid information that their preconceptions have conditioned them to expect, and more easily to misinterpret (or reject as irrelevant) all other data. This is why "the most effective deception measures are those designed to reinforce rather than change the victim's preconceptions."[77]

The Soviets have a keen appreciation of how these cognitive verities can be turned to profit to mislead the enemy. According to a 1974 analysis of surprise attacks in World War II,

> Both the Hitlerite and Japanese leaders held the view that they would probably be unable to completely conceal their preparations for aggression, and that it was therefore necessary at the very least to disorient the enemy as to the place, time and method [of their respective attacks], and to cause them to hesitate in making or adjusting their operational-strategic decisions. When planning the disinformation [of the enemy] the attacker exploited the enemy's biases and errors quite successfully in order to compel the latter to act along lines that benefitted the attacker.... [For example, after the original operational plan for an attack against France and the Low Countries fell accidentally into Allied hands in January 1940] the German fascist leadership developed and carried out a whole series of deception measures...[whose] main aim was to reinforce the Anglo-French high command's conviction that the old...plan...remained unchanged—that is..., that the main attack would be delivered by the enveloping right wing [Army

Group B] through central Belgium [instead of by Army Group A through Luxembourg as in fact happened].[78]

An effective deception thus "requires the execution of diverse...measures of disinformation...and the development of subtle logical constructs that take into account the 'consumer's' character and his wish to obtain particular important facts concerning the situation and actions of the opponent."[79] The "consumer," as Soviet materials make clear, "is the person who must make a decision on the basis of intelligence information available to him.... The *disinformer therefore makes a thorough study* not only of the [enemy's] means of reconnaissance and of his system of collecting, evaluating and presenting intelligence information to the military policy leadership, *but also of the leaders and higher commanders themselves, on whom the final decision depends*."[80]

Of the "strategic assumptions" the West makes about Moscow's aims in the Arctic TVD, several would seem to be vulnerable to manipulation: preconceptions about the nature and scope of Soviet objectives, and about how, where and when the Soviets would strike to attain them. The importance of the theater as a *defensive* bastion for Soviet *strategic* submarines is by now universally recognized;[81] but the implications of Soviet control of this classic Mahanian central position for the *offensive* employment of the Soviet Navy's *general-purpose* submarines in adjacent theaters have gone largely unnoticed. As a consequence, what is poorly understood is the importance and economy of force inherent in (and resulting from) the seizure and blockade of the choke points controlling access to and egress from the Arctic TVD. Another assumption, again, is that the principal threat to Norway issues from the Kola peninsula, making northern Norway an excellent choice not for the main attack but for a *diversion* to cover a move into the country through the southern "back door," which at this writing may well be vulnerable to the type of forcible entry hypothesized in the foregoing pages. The list of such manipulatable assumptions, unfortunately, can be extended.

Indecision

The second reason attempts to achieve surprise usually succeed is the victim's fear that military response to warning "may worsen the crisis and decrease the chances of avoiding war."[82] This concern often produces a tendency to see evidence of enemy preparations to attack "as a bluff designed for diplomatic coercion,"[83] a tendency that the enemy can reinforce by conducting a series of alerts and stand-downs (or exercises) to dull the victim's vigilance.

When the blow finally falls, the victim is off guard, and his army maldeployed and unready for war. Indeed, history teaches that *it is more often the aggressor, not the victim, who profits from a prolonged period of tension to prepare himself for war*, another lesson the Soviets seem keenly aware of. Witness the following assessment of the negotiations between Germany, Poland, France and Britain during the Danzig crisis immediately before the outbreak of World War II:

> During these negotiations the Nazi government fostered in every possible way the illusion of the Polish, French, and British governments that the disagreements that had arisen could be resolved peacefully....
>
> The Polish government, observing the gradual amassing of German armed forces on its borders, faced a dilemma...: would fascist Germany launch an armed attack on the country, or would it confine itself merely to threats of attack in order to obtain certain political or territorial concessions? And what should [Poland] do: mobilize its own armed forces—which might aggravate the situation even further—or hold off mobilizing until the diplomatic negotiations ended [i.e., failed]? While the Polish leaders...wavered, the Nazi leadership, which was firmly bent on attacking Poland, completed the mobilization and deployment of its own armed forces and chose a suitable moment to pounce on its victim....[84]

Since the late 1940s, the USSR has waged a relentless diplomatic campaign against efforts by the Scandinavian countries, and Norway in particular, to improve their defense posture. Moscow strongly protested Norway's decision to join NATO in 1949; her consent to the location of AFNORTH headquarters in Norway in 1951; her acceptance of West German liaison officers at this facility in 1959; her participation in biennial NATO exercises in North Norway since the early 1960s; and her prepositioning agreements with various Allied governments since the late 1970s.[85]

Norway has responded to this relentless diplomatic pressure with its own *Nordpolitik*, which the Norwegians liken to Willy Brandt's *Ostpolitik*, and which incorporates an element of "reassurance" to go with the measures of "insurance" Moscow finds so objectionable. In 1949 a Norwegian diplomatic

note pledged that Norway would not "open bases for the military forces of foreign powers on Norwegian territory as long as Norway is not attacked or exposed to threats of attack."[86] In 1957, another Norwegian note extended this pledge to cover nuclear weapons as well.[87] In 1978, Oslo curtailed planned West German participation in exercises in North Norway.[88] In 1980, the Norwegian government decided that the U.S. Marine Amphibious Brigade's heavy equipment should be prestocked not in Troms, as the Army had recommended, but considerably farther to the south around Trondheim.[89] Allied military aircraft may not fly in Norwegian airspace east of the 24th meridian, and analogous restrictions apply to Allied warships operating in Norwegian territorial waters. Finally, Oslo allows no Allied maneuvers in Finnmark, which borders on the USSR, gives notice of NATO maneuvers anywhere else in Norway, and regularly invites Warsaw Pact observers to witness them.[90]

Throughout this difficult balancing effort, Norway has sought to show that her will to defend her territory remains undimmed. (To compensate for its decision to prestock the Marine Amphibious Brigade's equipment in the Trondheim area, for example, the Norwegian government has decided to prestock heavy equipment for an additional mobilization brigade in Troms county.[91]) Nevertheless, during a period of severe East-West tension the Soviets may hope to exploit the *Nordpolitik's* element of "reassurance," and try through threatening words and gestures to effect the paralysis of Norway's political leadership, delay her decision to mobilize, and achieve the necessary conditions for a *coup de main* in the south.

SUMMARY AND CONCLUSIONS

"We are accustomed," Sir Julian Corbett once wrote, "to speak of naval strategy and military strategy as though they were distinct branches of knowledge which had no common ground.... [But] embracing them both is a larger strategy [that] regards the fleet and army as one weapon, which coordinates their action, and indicates the lines on which each must move to realize the full power of both."[92] Like Corbett, the Soviets understand that a campaign in the Arctic TVD will not be the Navy's alone to fight. It will involve not just that service, but its sisters as well, in a series of coordinated moves on land and at sea in order to win "strategic command of the sea," or mastery of the entire theater.

The strategic aims of this enterprise will be both defensive *and* offensive. On the one hand the Soviets will seek to protect their sea-based strategic reserve and its supporting infrastructure against enemy attack; on the other hand, they will seek to exploit the theater's central position in the Northern Hemisphere for offensive action in the North Atlantic and North Pacific Oceans.

The campaign will include operations not just to destroy enemy naval forces in the theater, but to seize and blockade its gateways, and to capture areas ashore that are crucial to gaining mastery of the theater's airspace.

For most of these measures to succeed, the Soviets will probably have to carry them out largely unopposed at the outset of the war, even if seizing the initiative entails initiating the hostilities. Seizing the initiative, in turn, will hinge critically on achieving surprise. It would be a cardinal error, however, to suppose that modern means of surveillance and detection have made the surprise attack somehow obsolete, or great deceptions no longer feasible. For surprise "is primarily a behavioral problem,"[93] not a technical one: The reasons for surprise are rooted more in the psychology of the victim than in his means of providing warning of attack. "It is often said," wrote Liddell Hart in 1935, "that the development of air observation and, more recently, of wireless interception, have made surprise impossible. I believe this view to be a fallacy. Air observation may be a check on the cruder forms of surprise, but it is an incentive to the more subtle—to deceiving the enemy's eyes so that the more trust he reposes on what they tell him, the more readily they can be made to mislead him. So also with wireless interception the one practical answer lies in *wireless deception*."[94] Every one of these words was borne out in the Second World War, and they remain valid today.

NOTES

1. The first submarine-launched missile of intercontinental range—the 4,200-n.mi. Soviet-built SS-N-8—became operational on *Delta-I*-class SSBNs in 1973. See *Jane's Fighting Ships 1985-1986* (London: Jane's Publishing Co., 1985), 514. The first equivalent U.S. missile (the 4,400-n.mi. Trident I) became operational in the late 1970s.

2. A. Tsvetkov, "Arktika v planakh SShA i NATO [The Arctic in U.S. and NATO plans]," *Zarubezhnoe voennoe obozrenie* [Foreign Military Review, hereafter cited as *ZVO*], no. 10 (October 1985), 7. Unless otherwise noted, this and subsequent translations are the author's.

3. "Interior lines of operations," wrote Antoine Henri de Jomini, who coined the term, "are those adopted by one or two armies to oppose several hostile bodies, and having such a direction that the general can concentrate the masses and maneuver with his whole force in a shorter period of time than it would require for the enemy to oppose to them a greater force." (See Baron de Jomini, *The Art of War*, trans. G.H. Mendell and W.P. Craighill [Philadelphia, Pa.: J.B. Lippincott and Co., 1862, reprint, Greenwood Press, 1971], 102.) According to Alfred Thayer Mahan, who believed (and sought to demonstrate) that much of Jomini's thinking about strategy also applied to maritime warfare, "the expression 'interior lines' conveys the meaning that from a central position one can assemble more rapidly on either of two opposite fronts than the enemy can, and therefore utilize force more effectively.... Briefly, interior lines are lines shorter in time than those the enemy can use." (A.T. Mahan, *Naval Strategy: Compared and Contrasted With the Principles and Practice of Military Operations on Land* [Boston: Little, Brown, 1911], 31-32.)

4. For example, to reach the Midway atoll area in the North Central Pacific Ocean, U.S. East Coast-based submarines must travel at least 14,700 n.mi. if they are barred from using the Arctic route. In contrast, Soviet Northern Fleet submarines sailing under the icecap from Severomorsk need travel only 5,500 n.mi., or 9,200 n.mi. less, to reach the same area. Similarly, to reach the vicinity of the Azores Islands, U.S. West Coast-based submarines must travel at least 12,500 n.mi., whereas Soviet Petropavlovsk-based submarines must travel only 5,900 n.mi., or 6,600 n.mi. less. Even Vladivostok-based nuclear submarines need travel only 7,300 n.mi. to get to the Azores area,

5,200 n.mi. less than U.S. West Coast-based submarines. "It is of little use to have a central position if the enemy on both sides is stronger than you," Mahan correctly observed. "But if you have an enemy in the Atlantic, and also one in the Pacific and are superior to each singly, though not to both combined, central position may give an opportunity of dealing with one or the other singly and decisively, of preventing their junction in a force which you cannot meet" (*Naval Strategy*, 53-55). How much greater, then, is the advantage of the Soviet Navy, whose nuclear submarine force enjoys numerical superiority not only over its U.S. Navy counterpart's Atlantic and Pacific components singly, but overall as well (117 to 98, according to *Jane's Fighting Ships 1985-1986*, 511 and 657). Whenever Soviet submarines appear in force in one theater, say, to attack U.S. sea lines of communication, the U.S. Navy may be forced to transfer some of its own submarines to that theater from the other to help deal with the threat. By mounting a series of carefully timed operations in each theater in turn, the Soviets could force the USN to keep a substantial fraction of its submarines in transit at any given time—and therefore effectively out of the picture in both theaters. The Soviets employed a continental version of this strategy during the summer campaign of 1944, when the Soviet-German front extended from the Barents to the Black Sea. The initial attack came in Belorussia, and "forced the German...command to redeploy forces to this sector from the Ukraine, the Baltic, Moldavia, and other areas. But before long Soviet forces followed this up with attacks in the Baltic and Western Ukraine, whence the enemy had just transferred a considerable number of troops" (*Istoriya vtoroy mirovoy voyny 1939-1945* [History of the Second World War 1939-1945], vol. 12, *Itogi i uroki vtoroy mirovoy voyny* [Results and lessons of the Second World War] [Moscow: Voenizdat, 1982], 285). Thus "the enemy was forced to disperse his efforts, since the part of his reserves that was moving [between sectors of the front] was unable to take part in the combat actions" (F. F. Gayvoronskiy, "Prevoskhodstvo sovetskoy voennoy nauki i voennogo iskusstva v Velikoy Otechestvennoy voyne [The superiority of Soviet military science and art of war in the Great War for the Fatherland]," *Voenno-istoricheskiy zhurnal* [Journal of Military History, hereafter cited as *VIZ*], no. 4 (April 1986), 15-16).

Insofar as its nuclear submarines are concerned, therefore, it is the U.S. Navy—not the Soviet Navy as some would have it—that will be fragmented into isolated pieces if the Soviets succeed in preventing it from using the under-ice route connecting the North Atlantic and North Pacific theaters. (On the "fleet fragmentation" of the Soviet Navy, see

Clyde A. Smith, "Constraints of Naval Geography on Soviet Naval Power," *Naval War College Review*, vol. 27, no. 2 [September-October 1974], 48: "[The] division of the Soviet Navy into four fleets, concomitant with the distances involved and with the lack of free access of each fleet with the others, ensures that the fleets cannot provide timely mutual support or reinforcement in wartime.")

5. *Voennyy Entsiklopedicheskiy Slovar'* [hereafter cited as *VES*] (Moscow: Voenizdat, 1983), 205.

6. *Slovar' osnovnykh voennykh terminov* (Moscow: Voenizdat, 1965), 65.

7. S.G. Gorshkov, *Morskaya moshch' gosudarstva* [Sea power of the state, hereafter cited as *MMG*], 1st ed. (Moscow: Voenizdat, 1976), 377; 2nd rev. ed. (Moscow: Voenizdat, 1979), 344.

8. See Phillip A. Petersen and John G. Hines, "The Conventional Offensive in Soviet Theater Strategy," *Orbis*, vol. 27, no. 3 (Fall 1983), 695-739; James M. McConnell, "Shifts in Soviet Views on the Proper Focus of Military Development," *World Politics*, vol. 37, no. 3 (April 1985), 317-343; P.H. Vigor, *Soviet Blitzkrieg Theory* (New York: St. Martin's Press, 1983).

9. Frederick the Great, *Instructions for His Generals*, trans. Thomas R. Phillips (Harrisburg, Pennsylvania: The Military Service Publishing Company, 1944), 56.

10. See USSR Ministry of Defense, *Atlas okeanov* [Atlas of the oceans], vol. 3, *Severnyy Ledovityy okean* [Arctic Ocean] (Moscow: Glavnoe upravlenie navigatsii i okeanografii Ministerstva oborony SSSR [Main Navigation and Oceanography Directorate of the USSR Ministry of Defense], 1980), plate 22; *Sovetskaya Voennaya Entsiklopediya* [Soviet Military Encyclopedia, hereafter cited as *SVE*], vol. 7 (Moscow: Voenizdat, 1979), 291. For a typical Western delimitation of the Arctic Ocean's boundaries, see Willy Ostreng, "The Strategic Balance and the Arctic Ocean," *Cooperation and Conflict*, no. 12 (December 1977), 59, fn. 1.

11. Gorshkov, *MMG*, 1st ed., 379-380; 2nd ed., 345-346.

12. V. Reznichenko and I. Suddenok, "Sistema obshchevoyskovykh i sovmestnykh operatsiy [The system of combined-arms and joint-service operations]," *VIZ*, no. 4 (April 1981), 19.

13. Yu. Bystrov, "Zavoevanie gospodstva na more [Gaining command of the sea]," *Morskoy sbornik* [Naval Digest, hereafter cited as *MS*], no. 3 (March 1977), 20; G. Kostev, "Ob osnovakh teorii Voenno-Morskogo Flota [Foundations of the theory of the Navy]," *MS*, no. 11 (November 1981), 21.

14. *VES*, 205.

15. Bystrov, "Zavoevanie gospodstva na more," 18. "If neither side succeeds at the outset in attaining such a commanding position, favorable conditions for the activity of forces are won in the course of a fierce armed struggle." Ibid.

16. Gorshkov, *MMG*, 1st ed., 379; 2nd ed., 345.

17. Bystrov, "Zavoevanie gospodstva na more," 18.

18. Ibid., 18.

19. *VES*, 260.

20. See, for example, Smith, "Constraints of Naval Geography on Soviet Naval Power," *passim*; Jay C. Mumford, "Geographic Constraints on the Soviet Navy," *Military Review*, vol. 61, no. 8 (August 1981), 39-48.

21. Cited in Robert D. Heinl, Jr., *Dictionary of Military and Naval Quotations* (Annapolis, Maryland: U.S. Naval Institute Press, 1966), 161.

22. A.A. Svechin, *Strategiya* [Strategy] (Moscow and Leningrad: Gosudarstvennoe Voennoe Izdatel'stvo [State Military Publishing House], 1926), 336 ff.

23. G. Morozov and B. Krivinskiy, "Rol' prolivov v vooruzhennoy bor'be na more [The role of straits in maritime warfare]," *MS*, no. 8 (August 1982), 19.

24. Ibid., 20.

25. A. Basov, "Prolivy v strategii kapitalisticheskikh gosudarstv [Straits in the strategy of the capitalist states]," *MS*, no. 2 (February 1982), 82.

26. Morozov and Krivinskiy, "Rol' prolivov v vooruzhennoy bor'be na more," 22. Author's emphasis.

27. M. Adam, "Nekotorye aspekty primeneniya minnogo oruzhiya v sovremennoy morskoy voyne [Some aspects of the employment of mine weapons in modern maritime warfare]," *MS*, no. 8 (August 1984), 22.

28. V. Yankovskiy, "Minnaya voyna na more [Mine warfare at sea]," *ZVO*, no. 2 (February 1980), 70.

29. A. Kondratovich and Yu. Skorokhod, "Miny—oruzhie universal'noe [Mines—all-purpose weapons]," *MS*, no. 11 (November 1975), 110.

30. V. Yankovskiy, "Minnaya blokada v planakh komandovaniya VMS NATO [The mine blockade in the NATO naval command's plans]," *MS*, no. 5 (May 1984), 27.

31. Ibid.; see also idem, "Minnaya voyna na more," 70.

32. Kondratovich and Skorokhod, "Miny—oruzhie universal'noe", 110. It should be noted, however, that some types of minefields require periodic reseeding.

33. Adam, "Nekotorye aspekty primeneniya minnogo oruzhiya," 23; see also Yankovskiy, "Minnaya blokada v planakh komandovaniya VMS NATO," 27; idem, "Minnaya voyna na more," 69; Kondratovich and Skorokhod, "Miny—oruzhie universal'noe," 110.

34. Kondratovich and Skorokhod, "Miny—oruzhie universal'noe," 110; also Yankovskiy, "Minnaya blokada v planakh komandovaniya VMS NATO," 27.

35. Yankovskiy, "Minnaya blokada v planakh komandovaniya VMS NATO," 29.

36. One source puts it at 225,000, and total Warsaw Pact stocks at 300,000 ("Mine System Survey," *Navy International*, vol. 91, no. 2 [February 1986], p. 114); another source estimates the Soviet stockpile to contain "between 300,000 and 400,000 naval mines" (Norman

Polmar, *Guide to the Soviet Navy*, 3rd ed. [Annapolis, Maryland: U.S. Naval Institute Press, 1983], 356). Admiral Wesley McDonald, formerly Supreme Allied Commander, Atlantic and Commander-in-Chief, U.S. Atlantic Command, has put the size of this stockpile at "approximately one quarter of a million," which is probably as close to an authoritative estimate as can be found in open sources (Wesley McDonald, "Mine Warfare: Pillar of Maritime Strategy," U.S. Naval Institute *Proceedings*, vol. 91, no. 10 [October 1985], 49).

37. C.C.M. de Nooijer, "Countering the Mine Threat," *Naval Forces*, no. 4 (August 1985), 67.

38. According to Norman Polmar, the Soviets possess "deep-water mines, probably with a capability to be planted in depths to 3,000 feet (910 m)" (*Guide to the Soviet Navy*, 356). According to *Jane's Weapon Systems 1985-1986*, these are thought to be "tethered torpedo-shaped devices fitted with a rocket propulsion unit and an active/passive acoustic sensor device" (222).

39. "Mine System Survey," 114; *Jane's Weapon Systems 1985-1986*, 222.

40. McDonald, "Mine Warfare: Pillar of Maritime Strategy," 49; de Nooijer, "Countering the Mine Threat," 67.

41. Yankovskiy, "Minnaya blokada v planakh komandovaniya VMS NATO," 30.

42. B.H. Liddell Hart, *Strategy: The Indirect Approach* (New York: Frederick A. Praeger, 1954), 339. Liddell Hart's emphasis.

43. Ibid., 123.

44. Yu. Bystrov, "Zavoevanie gospodstva na more [Gaining command of the sea]," *MS*, no. 3 (March 1977), 17.

45. A. Tsvetkov, "Arktika v planakh SShA i NATO [The Arctic in U.S. and NATO plans]" *ZVO*, no. 10 (October 1985), p. 8. Author's emphasis.

46. Ibid., 11. Author's emphasis.

47. This assumption pervades public discussion of Northern Flank issues, and is expressed or implicit in the writings of NATO officials, journalists and scholars alike. See, *inter alia*, John Berg, "Soviet Front-Level Threat to Northern Norway," *Jane's Defence Weekly*, 2 February 1985, 178; Erling Bjol, *Nordic Security*, Adelphi Paper no. 181 (London: International Institute for Strategic Studies, 1983), 24-25; Richard C. Bowman, "Soviet Options on NATO's Northern Flank," *Armed Forces Journal International*, April 1984, 88 ff.; Roy Breivik, "Assuring the Security of Reinforcements to Norway," *NATO's Fifteen Nations*, vol. 27, Special Issue no. 2 (1982), 66; Richard S. Castle, "Northern Norway: A Defense Challenge," *Joint Perspectives*, vol. 2, no. 2 (Fall 1981), 54-67 *passim*; Anthony Farrar-Hockley, "The Influence of the Northern Flank upon the Mastery of the Seas," *Naval War College Review*, vol. 35, no. 3 (May-June 1982), 8-10, 13; idem, "Dynamic Defence: The Northern Flank," *RUSI*, vol. 128, no. 4 (December 1983), 9; R.D.M. Furlong, "The Strategic Situation in Northern Europe: Improvements Vital for NATO," *International Defense Review*, vol. 12, no. 6 (1979), 903; Robert K. German, "Norway and the Bear: Soviet Coercive Diplomacy and Norwegian Security Policy," *International Security*, vol. 7, no. 2 (Fall 1982), 56; Bjarne Grimstvedt, "Norwegian Maritime Operations," U.S. Naval Institute *Proceedings* vol. 112, no. 3 (March 1986), 144; John F. Meehan III, "AFNORTH – NATO's assailable Flank?," *Military Review*, vol. 55, no. 1 (January 1975), 7-8, 10; Kenneth A. Myers, *North Atlantic Security: The Forgotten Flank*, The Washington Papers, vol. 6, no. 62 (Beverly Hills and London: Sage Publications, 1979), 21, 32 ff; Tomas Ries, "Defending the Far North," *International Defense Review*, vol. 17, no. 7 (1984), 877ff; Albert Leo Romaneski, "Nordic Balance in the 1970s," U.S. Naval Institute *Proceedings*, vol. 99, no. 8 (August 1973), 36-37; Harald Ronneberg, "Norway: Key to the North Atlantic," in John Moore (ed.), *Jane's Naval Review* (London: Jane's Publishing Co., 1985), 72-78 *passim*; Patrick Wall, "The Importance of NATO's Northern Flank," *Defence*, vol. 10, no. 1 (January 1979), 9-11.

48. The information presented here and depicted in figure 2 was compiled from the following sources: "Close-up: Norway," special supplement to *Military Technology*, vol. 8, no. 11 (November 1984), 19-20 and map on 7; Furlong, "The Strategic Situation in Northern Europe," 899-900, 902; Ries, "Defending the Far North," 879; Peter Howard, "Manning the Border at Grense Jakobselv," *Jane's Defence Weekly*, 12 April 1986, 664; Ted Hooton, "Update on Norway's Defense," *Military Technology*, vol. 10, no. 1 (January 1986), 65; Ellmann Ellingsen (ed.),

Militaerbalansen 1983-1984 (Oslo: Norwegian Atlantic Committee, 1984), which is a Norwegian translation of the IISS' *Military Balance 1983-1984* with a special addendum on the Northern Flank.

49. "Close-up: Norway," 19-20; Furlong, "The Strategic Situation in Northern Europe," 902; Ries, "Defending the Far North," 879; Ellingsen, *Militaerbalansen 1983-1984*; Breivik, "Assuring the Security of Reinforcements to Norway," 66.

50. The reinforcements include a multinational Allied Command Europe (ACE) Mobile Force; the United Kingdom/Netherlands Amphibious Force (UK/NLAF, which consists of Three Commando Brigade Royal Marines and One Amphibious Combat Group Royal Netherlands Marine Corps), a U.S. Marine Amphibious Brigade (MAB), and the Canadian Air-Sea Transportable (CAST) Brigade Group. The ACE Mobile Force and the U.S. MAB will arrive by air (the latter in the Trondheim area), and the U.K./NLAF and CAST Brigade Group by sea. See Ries, "Defending the Far North," 879-880; Furlong, "The Strategic Situation in Northern Europe," 906-907; "Close-up: Norway," 25; Ronneberg, "Norway: Key to the North Atlantic," 77; Castle, "Northern Norway: A Defense Challenge," 61-63; A.F. Whitehead, "Reinforcing NATO's Northern Flank," U.S. Naval Institute *Proceedings*, vol. 111, no. 7 (July 1985), 133-135.

51. Furlong, "The Strategic Situation in Northern Europe," 900; Whitehead, "Reinforcing NATO's Northern Flank," *passim*; Castle, "Northern Norway: A Defense Challenge," 57.

52. Liddell Hart, *Strategy: The Indirect Approach*, p. 205.

53. *VES*, 253.

54. Anthony Farrar-Hockley, "The Influence of the Northern Flank upon the Mastery of the Seas," *Naval War College Review*, vol. 35, no. 3 (May-June 1982), 13. "At least, this is true so long as the USSR does not decide to attack across Sweden to reach south Norway," he adds. But on the other hand, "Warsaw Pact attacks across Sweden are likely to be self-defeating."

55. "Close-up: Norway," 19, 21, 30; Ellingsen, *Militaerbalansen 1983–1984*.

56. These forces reportedly can mobilize within 3 days (Furlong, "The Strategic Situation in Northern Europe," 902; "Close-up: Norway," 19-20). See also Ellingsen, *Militaerbalansen 1983-1984*.

57. In 1940, 82 percent of the Norwegian Army's wartime strength consisted of reservists. Today, that figure has risen to 87 percent. See Earl F. Ziemke, "The German Decision to Invade Norway and Denmark (1940)," in Kent Roberts Greenfield (ed.), *Command Decisions* (Washington, D.C.: U.S. Government Printing Office, 1958), p. 51n; "Close-up: Norway," 16.

58. The German conquest of Denmark was effected by two infantry divisions, one motorized rifle brigade, an airborne battalion, a parachute company and a parachute platoon. The key actions were the seizure of the airfields at Aalborg by the airborne battalion and parachute platoon, and the landing in Copenhagen of an infantry battalion that had entered the harbor concealed in a merchant ship. The most detailed and comprehensive account of *Weseruebung* in English is in Earl F. Ziemke, *The German Northern Theater of Operations 1940-1945*, Department of the Army Pamphlet No. 20-271 (Washington, D.C.: U.S. Government Printing Office, 1959), 26-112.

59. A.M. Noskov, *Skandinavskiy platsdarm vo vtoroy mirovoy voyne* [The Scandinavian beachhead in the Second World War] (Moscow: Nauka, 1977), 8-9.

60. Ibid., 125.

61. Ibid., 126. It should be emphasized that this assessment is not peculiar to this particular Soviet author. Eleven years before, Colonel D. Proektor came to substantially the same conclusions in an article written for the Soviet *Journal of Military History*:

> The *Wehrmacht's* invasion of Norway and Denmark in April 1940...was a combined operation by three armed services. The success of this operation, the first of its kind to be carried out in World War II, plainly attested to the higher level of the *Wehrmacht's* art of war as compared to the other capitalist countries' art of war at this stage.... The German fascist high command no doubt took a risk in launching an air and sea invasion with the British navy's bases closer to the landing zones than North Germany's

> [own] ports. But the risk was justified by an accurate reading of the [Allies'] "phony war" policy, which in the present case...paralyzed Allied strategy. The most instructive aspects of the operation to invade Norway must be said to be: (1) the cooperation at the operational level of the navy, air force and ground forces, whose foundation was the unified command of the operation by the OKW; the thorough planning of the naval, air and infantry actions on the basis of detailed intelligence information; the good training of the commanders, who were able with initiative to take charge of small detachments separated from the main forces and isolated from the departure base; (2) the methods used to seize enemy strong points by surprise with parachute troops airdropped on the airfields, with the subsequent immediate air landing of field troops, equipment and supplies by transport aircraft; (3) the extensive airlifting of troops and supplies.

(D. Proektor, "O nekotorykh voprosakh strategii pervogo perioda vtoroy mirovoy voyny [Some questions of the strategy of the first period of World War II]," *VIZ*, no. 8 (August 1966), 31.)

62. Diego A. Ruiz Palmer, "The Forces: National Contributions," *Armed Forces Journal International*, May 1984, 58, 61.

63. COMBALTAP, who is headquartered in Karup, Denmark (67 km northwest of Aarhus), includes two subordinate ground forces commands: Commander, Allied Land Forces Jutland (COMLANDJUT, headquartered in Rendsburg, West Germany, 30 km west of Kiel), and Commander, Allied Land Forces Zealand (COMLANDZEALAND, headquartered in Copenhagen). The forces assigned to COMLANDJUT—who is responsible for the area between the Elbe River and a line running west across the Jutland peninsula from Horsens, Denmark—include the FRG's 6th *Panzergrenadier* Division and 13th Home Defense Group, both stationed south of the Kiel Canal, and the Danish Jutland Division, which is stationed in the Fredericia area. All three of these formations have orders to move up to the inter-German border in the event of a Warsaw Pact attack. COMLANDZEALAND, however, must defend the Jutland Peninsula north of Horsens, the Zealand archipelago and Bornholm Island with two brigades (headquartered in Copenhagen) and a reinforced battalion (stationed on Bornholm Island). Furlong, "The Strategic

Situation in Northern Europe," 903-905; Wolfgang Gerhardt, "What About Multinational Corps in NATO? One Example: NATO Corps Landjut," *Military Review*, vol. 59, no. 3 (March 1979), 11-16; O.K. Lind, "Denmark and the Baltic: Forward Defense for the U.K.?," *RUSI*, vol. 130, no. 2 (June 1985), 10.

64. Donald E. Fink, "Prague Invasion Vanguard Used Aeroflot," *Aviation Week and Space Technology*, 30 September 1968, 16-18; idem, "Afghan Invasion Likened to 1968 Action," *Aviation Week and Space Technology*, 14 July 1980, 20-23; Ralph Ostrich, "Aeroflot," in Paul J. Murphy (ed.), *The Soviet Air Forces* (Jefferson, North Carolina and London: McFarland and Company, 1984), 233, 239. *Spetznaz* is a Russian contraction for *voyska spetsial'nogo naznacheniya*, or "special-purpose forces." On *spetsnaz* involvement in the seizure of Prague and Kabul airports, see James Hansen, "Soviet Vanguard Forces—*Spetsnaz*," *National Defense*, vol. 70, no. 416 (March 1986), 36.

65. Aeroflot has daily service from Moscow to Oslo and Copenhagen, and thrice-weekly service to Stavanger. See *Official Airline Guide: Worldwide Edition*, vol. 10, no. 2 (1 April 1985), 641-657, 1752-1765, 2182-2186.

66. Admiral Gorshkov, former Commander-in-Chief of the Soviet Navy, had this to say about RO/RO ships in the second edition of *Sea Power of the State*:

> Roll-on/roll-off ships have undergone significant development. Loading and unloading operations on these ships can achieve the same high rate as on container ships, as well as the great flexibility achievable on general-purpose dry cargo ships. These ships are capable of carrying a large number of wheeled vehicles and oversized cargoes that cannot be containerized.
>
> By 1975 the number of roll-on/roll-off ships in service totalled 142 units, with an aggregate capacity of 150,000 gross tons.... They are between 14,000 and 20,000 deadweight tons in size, and have speeds of 20 to 25 knots. These ships are normally loaded through a stern port. In some cases, moreover, a bow port and side ports are provided to speed up cargo handling. These ships feature bow ramps and (if they are of large displacement) stern

> ramps, suspended vehicle decks, none of the elevators typical of conventional cargo ships, and extensive automation.
>
> Roll-on/roll-off ships are particularly effective as military transports because they can carry military equipment and containers. Their cargo-handling rate is higher than that of container ships because wheeled vehicles can drive off even as containers are being offloaded.

(*MMG*, 2nd ed., 55-56.)

67. The buildup of forces at Kabul International Airport in 1979 was swift. Between 24 and 26 December, 5,000 troops and their equipment (the bulk of the 105th Guards Airborne Division) were flown into the airport in 250 sorties, with transport aircraft landing every 10 minutes (see *Aviation Week and Space Technology*, 7 January 1980, 15). According to estimates made by Kenneth Allard, the assault elements of three airborne divisions—17,000 troops and more than 300 airborne infantry combat vehicles—can be projected in 904 sorties (666 by An-12s, 118 by Il-76s, and 120 by An-22s), that is, in about 6 days of round-the-clock operations, with 10-minute landing intervals (Kenneth Allard, "Soviet Airborne Forces and Preemptive Power Projection," *Parameters*, vol. 10, no. 4 [December 1980], 46-47). Soviet airlift capabilities are increasing. The new An-124 displayed at the 1985 Paris Air Show has a maximum payload of 150 metric tons, which is 7.5 times that of the An-12, 3.8 times that of the Il-76, and about twice that of the An-22 (*Aviation Week and Space Technology*, 3 June 1985, 58; *Aerospace Daily*, 12 June 1985, 237; *Jane's Defence Weekly*, 15 June 1985, 1134). The internal dimensions of the An-124's cargo hold compare favorably with those of the C-5: it is 11 percent wider, and about 8 percent larger in area than the C-5's (for C-5 data see *Jane's All the World's Aircraft 1985-1986* [London: Jane's Publishing Company, 1985], 441).

68. These contingency plans are outlined in Robert P. McQuail, "Khrushchev's Right Flank," *Military Review*, vol. 44, no. 1 (January 1964), 7-16. The author is indebted to Robert G. Weinland for bringing this article to his attention.

69. See Kirsten Amundsen, "Soviet Submarines in Scandinavian Waters," *The Washington Quarterly*, vol. 8, no. 3 (Summer 1985), 116-118. See also Stig Lofgren, "Soviet Submarines against Sweden," *Strategic*

Review, vol. 12, no. 1 (Winter 1984), 36-42; Edgar O'Ballance, "Underwater Hide-and-Seek," *Military Review*, vol. 64, no. 4 (April 1984), 65-74; Carl Bildt, "Submarine Incursions: Sweden Fights Back," in John Moore (ed.), *Jane's Naval Review* (London: Jane's Publishing Company, 1985), 135-141.

70. Tomas Ries, "Combined Operations: The Swedish Approach to Defense," *International Defense Review*, vol. 16, no. 4 (1983), 413-420.

71. *Istoriya vtoroy mirovoy voyny 1939-1945*, vol. 3, *Nachalo voyny. Podgotovka agressii protiv SSSR* [The war's beginning. Preparations for aggression against the USSR] (Moscow: Voenizdat, 1974), 79.

72. Carl von Clausewitz, *On War*, bk III, ch. IX, trans. Michael Howard and Peter Paret (Princeton, New Jersey: Princeton University Press, 1984), 198.

73. See Roberta Wohlstetter, *Pearl Harbor: Warning and Decision* (Stanford, California: Stanford University Press, 1962), *passim*; Johan Jorgen Holst, "Surprise, Signals and Reaction: The Attack on Norway April 9th 1940—Some Observations," *Cooperation and Conflict*, no. 1 (1966), 31-45; Abraham Ben-Zvi, "Hindsight and Foresight: A Conceptual Framework for the Analysis of Surprise Attack," *World Politics*, vol. 28, no. 3 (April 1976), 381-395; Richard K. Betts, *Surprise Attack: Lessons for Defense Planning* (Washington, D.C.: The Brookings Institution, 1982), *passim*; Michael Handel, "Crisis and Surprise in Three Arab-Israeli Wars," in Klaus Knorr and Patrick Morgan (eds.), *Strategic Military Surprise: Incentives and Opportunities* (New Brunswick, New Jersey and London: Transaction Books, 1984), 111-146.

74. *Surprise Attack*, 4.

75. For example, "That fascist Germany and militaristic Japan achieved surprise does not mean that their opponents knew nothing of the political aims or strategic designs and plans of the aggressor countries.... [The victims] could have taken specific countermeasures to nullify the aggressor powers' efforts to achieve surprise. Yet they failed to do so...." N.I. Gutchenko, "Maskirovka agressii v Evrope i na Tikhom okeane [Camouflaging aggression in Europe and the Pacific Ocean], in S.P. Ivanov (ed.), *Nachal'nyy period voyny (Po opytu pervykh kampaniy i operatsiy vtoroy mirovoy voyny)* [The initial period of war (From the

experience of the early campaigns and operations of the Second World War)] (Moscow: Voenizdat, 1974), 170-171. See also ibid., 167-168; L.I. Ol'shtynskiy, *Vzaimodeystvie armii i flota* [Army-Navy cooperation] (Moscow: Voenizdat, 1983), 34-35, 75.

76. Robert Jervis, "Hypotheses on Misperception," *World Politics*, vol. 20, no. 4 (April 1968), 457.

77. Betts, *Surprise Attack*, 109.

78. Gutchenko, "Maskirovka agressii," 167-168.

79. K. Penzin, "Vnezapnost' v morskikh desantnykh operatsiyakh i mery po ee dostizheniyu [Surprise in amphibious landing operations and ways to achieve it]," *MS* no. 4 (April 1980), 16.

80. V. Meshcheryakov, "Strategicheskaya dezinformatsiya v dostizhenii vnezapnosti po opytu vtoroy mirovoy voyny [Strategic disinformation in the achievement of surprise, from the experience of the Second World War]," *VIZ*, no. 2 (February 1985), 74. Author's emphasis.

81. See the official Department of Defense publication *Soviet Military Power 1986* (Washington, D.C.: U.S. Government Printing Office, 1986), 87-88; and Jan S. Breemer, "The Soviet Navy's SSBN Bastions: Evidence, Inference, and Alternative Scenarios," *RUSI*, vol. 130, no. 1 (March 1985), 18.

82. Betts, *Surprise Attack*, 4.

83. Ibid., 105.

84. Gutchenko, "Maskirovka agressii," 161.

85. German, "Norway and the Bear," 58-60, 62, 63-64, 70-72, 73-75.

86. Ibid., 59-60. According to German, this policy would probably have been followed anyway, but the formal pledge was a response to Soviet protests.

87. Ibid., 62-63.

88. Ibid., 71.

89. Ibid., 73.

90. Ibid., 70; Castle, "Northern Norway: A Defense Challenge," 57; Betts, *Surprise Attack*, 257.

91. Erling Bjol, *Nordic Security*, p. 26; John Berg, "Tight Defence Budget for Norway," *Jane's Defence Weekly*, 2 November 1985, p. 962.

92. Julian S. Corbett, *Some Principles of Maritime Strategy* (London: Longmans, Green and Co., 1911), p. 8.

93. A.L. Elliott, "The Calculus of Surprise Attack," *Air University Review*, vol. 30, no. 3 (March-April 1979), 61.

94. B.H. Liddell Hart, *When Britain Goes to War: Adaptability and Mobility* (London: Faber and Faber, 1935), 243. Emphasis Liddell Hart's.

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