

1986

The Soviet Envelopment Option on the Northern Flank

Milan Vego

Follow this and additional works at: <https://digital-commons.usnwc.edu/nwc-review>

Recommended Citation

Vego, Milan (1986) "The Soviet Envelopment Option on the Northern Flank," *Naval War College Review*: Vol. 39 : No. 4 , Article 4.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol39/iss4/4>

This Article is brought to you for free and open access by the Journals at U.S. Naval War College Digital Commons. It has been accepted for inclusion in Naval War College Review by an authorized editor of U.S. Naval War College Digital Commons. For more information, please contact repository.inquiries@usnwc.edu.

The Soviet Envelopment Option on the Northern Flank

Milan Vego

Nowhere is the Soviet threat to the NATO alliance more acute than to its northern flank, an area which extends from the Elbe-Trave canal in the south to the North Cape in the north. The principal vulnerabilities of NATO's northern flank are: lack of geographic cohesion, the narrowness of the land area, proximity to a heavy concentration of Soviet military power on the Kola peninsula and in the Baltic, and the inadequacy of the standing forces and reinforcements assigned to its defense. The Soviets could exploit these vulnerabilities in wartime and achieve a rapid decision on NATO's northern flank, thereby fatally weakening the Allied effort on the Central Front.

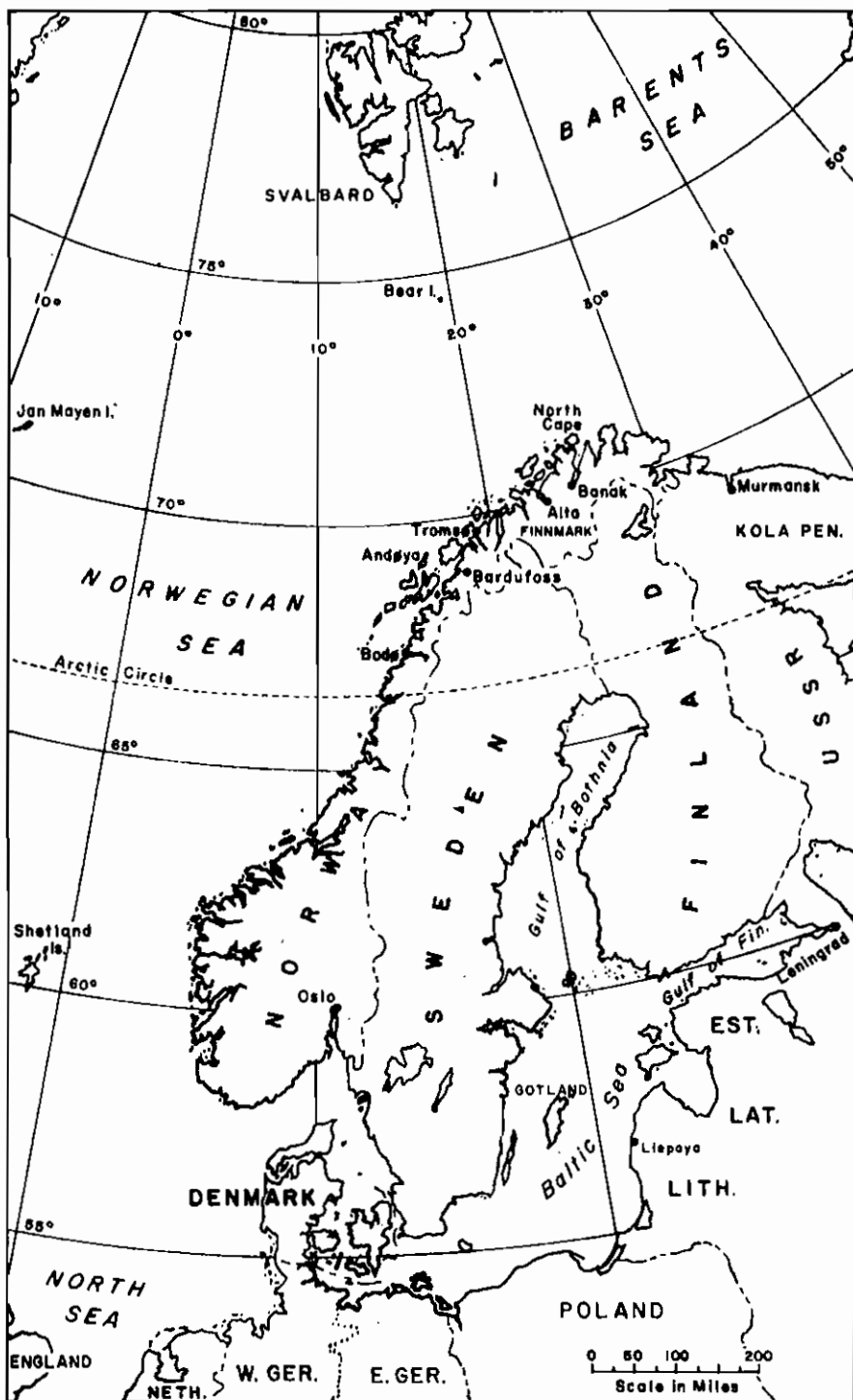
Should war break out the main Soviet military objectives in northern Europe and adjacent waters in a general conflict would be:

- to obtain access to airbases and harbors on the Scandinavian Peninsula;
- to prevent NATO alliance from using Scandinavia as a forward base for its air/naval forces;
- to protect its own SSBNs in their sanctuaries and operating areas;
- to prevent U.S. carrier battle groups (CVBGs) from carrying out strikes against the targets on the Kola peninsula;
- to obtain unimpeded passage for the Soviet naval forces through the Greenland-Iceland-U.K. (GIUK) Gap;
- to interdict NATO's SLOCs in the Northern Atlantic; and
- to prevent NATO's naval forces incursions into the Baltic.

The Soviets would almost certainly contest and ultimately try to obtain sea control north of the GIUK Gap in order to prevent NATO naval incursions, principally by the U.S. CVBGs and SSNs, into the northern seas. Once these tasks were successfully completed and the war became protracted, the Soviet Northern Fleet in combination with the forces of the Baltic Fleet would

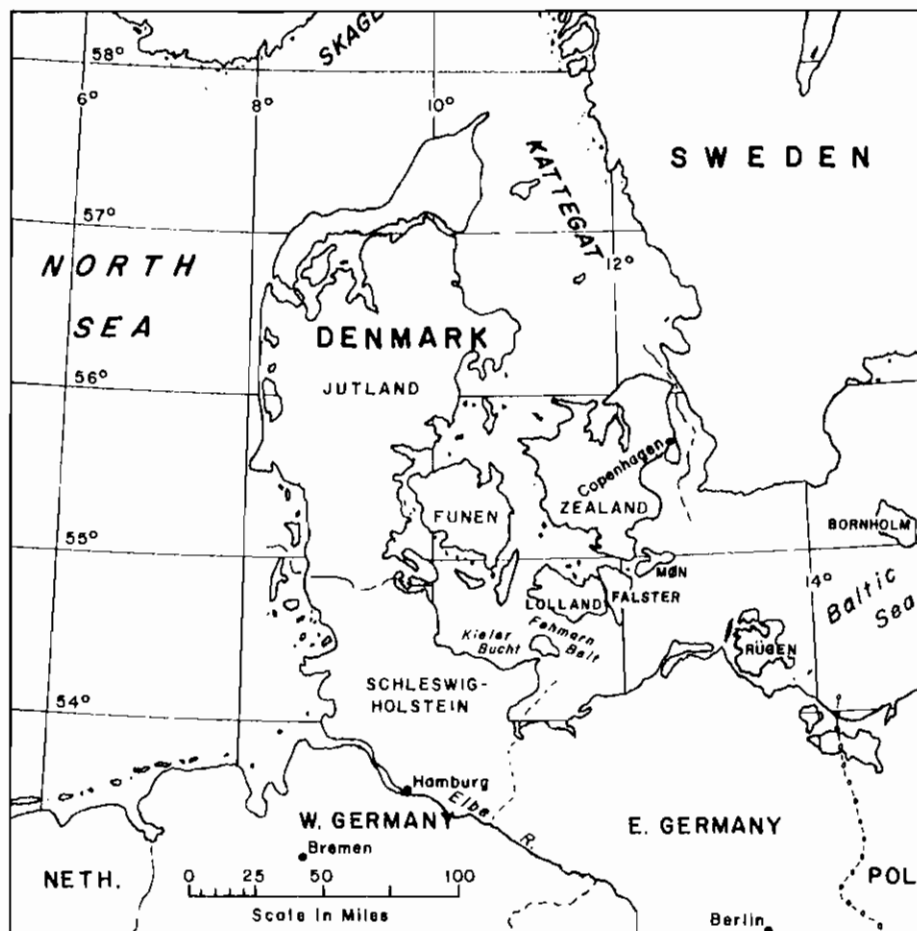
The author expresses his gratitude to the Institute for Foreign Policy Analysis, Boston, Massachusetts, for its approval in the publishing of this article.

Dr. Milan Vego, a onetime Lieutenant Commander in the Yugoslavian Navy, writes extensively on Soviet naval affairs. He is currently serving as a naval analyst with the Center for Naval Analyses.



28 Naval War College Review

institute a naval blockade of Western Europe/British Isles. In conjunction with these activities, the Northern Fleet would also be tasked to protect maritime flank of the Soviet Ground Forces from amphibious assault landings and raids.



The Baltic in Soviet Strategy

The Soviets consider the Baltic, the Danish straits and the North Sea as a strategic whole. The Baltic extends along the main axis for about 920 nautical miles (nm), and it has an average width of about 105 nm. Sea distances between various points in the Baltic are relatively short. For example only 90 nm separates Sweden's island of Gotland and the Soviet naval base Liepaya. The distance between East Germany's island of Rügen and Bornholm, Denmark is about 45 nm. The last occupies an excellent position for monitoring all naval and air movements in the western part of the Baltic. While the Danish straits control the exits from the Baltic, there are two

“artificial” outlets in the Baltic—the White Sea-Baltic Canal in the north and the Kiel Canal in the south; both are of limited capacity. The 482-mile-long White Sea canal can accommodate ships up to 5,000 tons but icing restricts transit through it for only six to seven months of the year. Both canals are highly vulnerable; hence, whoever controls the Danish straits holds the keys to the Baltic. It becomes obvious then that the Warsaw Pact’s huge naval potential in the Baltic will be entrapped unless they seize the Danish straits early on in the conflict.

The Soviet control of the Danish straits would allow the Baltic Fleet to conduct operations in the North Sea, thus complicating the role NATO naval forces would play in support of the Central Front. The control of the Baltic approaches would enable Soviet oceangoing combatants and aviation to be employed in combination with the Northern Fleet against NATO’s forces in the Norwegian Sea. By controlling the Danish straits and adjacent islands and islets, the Soviets would considerably increase the depth of their air defenses in the Baltic area, especially against the U.S./NATO sea-launched cruise missiles (SLCMs).

The wartime missions of the Warsaw Pact navies in the Baltic, because of very different features of the theater of operations and the proximity of the land front, will be unlike those assigned to the Northern Fleet. The principal tasks of the Soviet Baltic Fleet in a coalition war will most likely be to: obtain sea control in the western part of the Baltic thereby preventing NATO naval incursions in the area, to protect the maritime flank of the ground forces, to conduct amphibious assaults and take part in the seizure of the Danish straits, to provide control and protection of their merchant shipping, and to interdict the enemy SLOCs.

The tasks of East Germany’s *Volksmarine* and the Polish Navy are roughly similar. Both navies have the responsibility to provide basing facilities and logistic support to Soviet Baltic Fleet’s ships and aircraft. The Polish Navy is charged with the tasks of defending the country’s sea border and protecting the country’s political and economic interests in peacetime; while the *Volksmarine* will seek to protect the GDR’s western maritime border and that of the socialist states.* The wartime tasks of both these navies will be similar and reflective of the Soviet Baltic Fleet.

Any military conflict in Europe between the Warsaw Pact and NATO alliance would almost certainly be preceded by a crisis and period of heightened international tensions. Assuming that the Soviets will take the initiative in commencing hostilities, they will most likely conduct a massive movement of their submarine and oceangoing surface combatants from both the Northern and Baltic Fleet—plus perhaps some oceangoing combatants of

* 75 *Answers on the National People’s Army of the GDR*, trans. Intertext (Berlin: Militaerverlag der DDR, 1979), pp. 12, 19; *The National People’s Army of the GDR*, trans. Intertext (Berlin: Panorama, 1980), p. 31.

the *Volksmarine* and the Polish Navy—into the Northern Atlantic. Such a move would probably be disguised as a major fleet exercise similar to the one conducted in April 1984. Otherwise, both Soviet Fleets, particularly the Baltic Fleet, could well be bottled up in their peacetime basing/operating areas. There is no reason why the Soviets should keep oceangoing combatants in the Baltic, where they cannot be employed fully and are very vulnerable to enemy air, instead of moving them out into the open ocean.

The principal initial tasks of the Soviet Northern Fleet and of those forces of the Baltic Fleet which reached the open ocean would be to obtain sea control in the Barents/Greenland Seas and thereby protect its own SSBNs in their operating areas. Sea denial tasks in the Norwegian Sea and elsewhere in the Northern Atlantic would be conducted primarily by the SSGNs/SSGs and land-based aviation, and those SSNs/SSs not required for carrying out pro-SSBN tasks.

Significance of Northern Norway

In any conflict between the Warsaw Pact and NATO alliance, a Soviet attack against Norway would be a near certainty. A major part of the Soviet Northern Fleet, including almost all its SSBNs, is based along the 37-mile-long coastline of the Kola inlet which lies some 30 miles away from the Norwegian border. Protection of the Kola bases is compounded because of their proximity to Norway's border and because the peninsula lies far away from the Soviet industrial heartland and lacks well-developed railroad and road links with the rest of the country.

Aircraft using airfields in northern Norway need only a few minutes to reach the Soviet bases on the Kola peninsula, and northern Norway dominates the exits of the Soviet Northern Fleet to the open ocean. All surface ships passing to and from the Barents Sea and those in the Norwegian Sea would be at grave risk from adversarial airfields in northern Norway. Hence, whoever has control over Norway will also be in a position to contest the airspace over the Norwegian Sea and a large part of the Northern Atlantic. Norway's coast between Bergen and Tromsø has unparalleled strategic significance for the Western alliance because it flanks the 1,000-mile-long route that the Soviet submarines, surface ships, and aircraft must pass before reaching the Atlantic sea lines.

The occupation of northern Norway by the Soviets would extend the defensive perimeter of their bases on the Kola peninsula and numerous ice-free and deepwater fiords dotting the Norwegian coast would offer near ideal locations from which to disperse the Soviet Northern Fleet. The Soviet SSBNs could be redeployed into the fiords where they would find added protection from enemy ASW forces. The possession of northern Norway's

coast would broaden the base of operations for the Soviet submarines and surface ships. By using bases in Norway, the distance to operating areas for the Soviet naval forces employed to interdict U.S./NATO SLOCs in the Atlantic would be shortened by some 600-900 miles. Bases in Norway would enable the Soviet ships to be replenished and repaired closer to their area of combat operations, resulting in an increase of the relative number of deployable ships.

The Backfire bombers based on the Norwegian airfields would considerably increase the threat to the survivability of the U.S./NATO surface ships in the Northern Atlantic. These bombers based in Norway would be capable of conducting antishipping strike missions as far south as the Azores, further compounding the problem of resupplying the U.S./NATO troops in Western Europe. In seizing northern Norway the Soviets would be able to conduct maritime air surveillance missions, which are essential to provide them early warning of any potentially hostile forces present north and east of the GIUK Gap. The Soviets would then also be able to provide an effective air cover for their ships operating in the Norwegian Sea.

By occupying northern Norway, the Soviets would virtually ensure the control of the Norwegian Sea in the north from a line extending from Norway to Iceland to Greenland. Hence, the Soviet ability to counter the threat of U.S. aircraft carriers and U.S./NATO SLCM-armed submarines and surface combatants would be significantly improved.

Soviet Thrust in the North

The terrain in Finnmark is largely flat and the population density is only about five persons per square kilometer. Autumn is considered the most favorable time of the year for conducting offensive operations since the ground is dry and daylight is still relatively long. The only major road in Finnmark runs from Bodø and stops short of the Soviet border. The road cuts through many valleys and over mountains, and a fiord which must be crossed by a ferry. The only railroad passing through Finnmark runs parallel along the coast from Oslo to Bodø. These communications links could be easily neutralized by enemy airstrikes or by commando teams. Hence, their is great strategic value for both attacker and defender to have possession of a few good airfields in Finnmark.

A Soviet full-scale attack against northern Norway would probably be conducted over a broad front across the common border with Norway, but with the main axis of advance through the Finnish territory towards Bodø. The Soviet violation of Finnish territory would be virtually unavoidable regardless of whether the Finns choose to fight or succumb to the Soviet pressure, as the Finnish wedge offers the shortest line of advance to the Norwegian coast south of Tromsø.

The Soviet overland advance into Finnmark would be supported by tactical airstrikes aimed primarily at preventing NATO reinforcements in troops and materiel from the northern Norway's ports and airfields. The Soviets would probably use the elements of one air assault division for seizing the principal airfields in the area, such as Tromsø, Bardufuss, Andøya, and Bodø.

One would expect that the Soviets will use helicopters in large numbers both for transport and fire support of the ground troops. The Soviets would most likely use their naval infantry brigade for carrying out amphibious assault landings in the proximity of northern Norway's ports. In addition, the commercial roll-on/roll-off ships could be used in support of amphibious assault landings conducted by the ground troops. The Spetsnaz teams are also expected to be used in a variety of missions, but primarily for the destruction of the coastal radar surveillance sites, artillery emplacements and minor naval bases.

While the battle for northern Norway is underway, the principal task of the Northern Fleet would be (besides pro-SSBN conducted in the Greenland/Barents Seas) to conduct sea denial missions aimed chiefly at preventing the arrival of the Allied reinforcements by sea. These tasks would be primarily conducted by attack submarines and land-based bombers. The Soviets' surface combatants would be employed in conducting antisurface warfare tasks, relatively close to the coast and only when protected by Soviet fighter aviation.

The Northern Fleet would also be called upon to protect the flank of the ground forces by conducting surveillance tasks, and by the bombardment of enemy troop concentration and installations in the proximity of the coast. The Northern Fleet would have the responsibility to provide lift and fire support to the forces carrying out amphibious assault landing operations; further, it would be charged with the protection of its own SLOCs, especially those between the ports on the Kola peninsula and the occupied part of northern Norway because the bulk of supplies for the Soviet troops would have to come by the sea.

The eventual seizure of northern Norway would provide the Soviets with a very favorable position from which to interdict the Allied SLOCs in the Northern Atlantic. Yet, the Soviet control of northern Norway and even all of Norway would not ensure free access to the Atlantic by their submarines and aircraft, as the Germans learned only too well in World War II. The Soviets must seize Iceland, and perhaps even part of Greenland in order to gain control of the Northern Atlantic.

Greenland, the Faeroes, and Orkneys are considered the locks, but whoever controls Iceland holds the keys to the Northern Atlantic. The distance between Iceland and Norway is about 550 miles, but only 150 miles separates Iceland from the east coast of Greenland. Iceland flanks the end of the 1,530-nm route which the Soviet submarines and aircraft must pass

through to reach the open waters of the Atlantic.

After leaving Murmansk and the Barents Sea, Soviet submarines normally sail a 100 by 270-mile-long depression, which extends from the North Pole to the Nansen Basin where the depth range is from 1,500 to 2,000 fathoms, and then proceed eastwards of Iceland into the open ocean. The deep waters of the Greenland Sea are the patrolling areas of the Soviet SSBNs because they allow loitering space and more room for maneuver than the shallow waters of the Barents Sea or the ice-covered waters of the Arctic Ocean. With Iceland as a base, the Soviets would be able to facilitate the transit of their submarines to the open waters of the Atlantic and add to the protection of the SSBNs in their patrolling areas in the Greenland/Barents Seas. Iceland would also provide them with an excellent base to operate their bombers and fighter-bombers against NATO maritime assets in the North Atlantic.

Iceland lies at approximately the midway point between the Kola peninsula and the U.S./NATO Atlantic SLOCs. For example the distance between Murmansk and Keflavík is about 1,520 nm, while another 1,850 nm separates Keflavík from Halifax, Nova Scotia. From their bases near Murmansk the Backfire-Bs have an unrefueled flight profile of about 2,650 nm. They could reach the targets as far south as the Azores. Backfire-Bs based on Iceland would be capable of conducting strikes against U.S./NATO surface combatants and merchant ships much farther south of the Azores. Allied convoys would be forced to use southern routes and that would add at least 5 days to a voyage from U.S./Canada to West European ports. The Tu-16 Badgers and Tu-22s based on Iceland with their unrefueled range of about 1,400-1,500 miles would further compound the Allied problems in defending the critically important SLOC in the Northern/Central Atlantic. By using Iceland as a base for the fighter-interceptors the Soviets would also considerably extend air cover for their fleet, thereby allowing their major surface combatants to be employed in the Northern Atlantic.

The Soviet move to seize Iceland would most likely take place simultaneously with their full-scale invasion of northern Norway. The likely scenario would be to carry out a surprise attack by at least one airborne assault division with Spetsnaz units against the island. Any Soviet attempt to seize Iceland would be accompanied by actions to secure control of the Svalbards (Spitsbergen). They lie some 360 miles north of Norway and 850 miles northwest of Iceland. The Svalbards occupy a significant strategic position because they flank the exit route of Soviet ships and submarines from/to the Barents Sea, and the Arctic Ocean.

The strategic significance of Greenland (especially its northern part) has increased in the recent years because the adjacent Greenland Sea became a patrol area of the Soviet Delta-class SSBNs. The Soviet attack submarines are reportedly using a new deployment route that runs from the Kola Peninsula northwards under the Arctic ice to and through the 300-mile-long Nares

34 Naval War College Review

straits between Greenland and Ellesmere Island (Baffin Bay) then through the Davis Strait into the Northern Atlantic. The Nares straits are also a convenient passage for U.S. submarines seeking the Soviet SSBNs in the Greenland Sea. The surveillance of submarine transit on that route is very difficult because of the prevailing bad weather conditions. Nevertheless, the Soviets might be tempted to occupy the northern part of Greenland after their seizure of Iceland to further counter U.S./NATO submarines from entering the Greenland Sea through the Nares straits. The Soviets would almost certainly occupy part of the eastern coast of Greenland to strengthen their control of the Denmark Strait.

Southern Pincer

The Warsaw Pact navies in the Baltic can be expected to play a major role in protecting the northern flank of the Warsaw Pact forces on the Central Front. On the eve of apparent hostilities, the Soviets would probably conduct extensive offensive mining operations in the approaches to the Danish straits by using submarines and small surface combatants. NATO's control of the western Baltic would be challenged by missile-armed surface combatants and submarines; these all supported by the tactical air against NATO's surface combatants and naval installations. Perhaps as many as six to eight divisions would be used in the overland drive from East Germany toward Schleswig-Holstein. The terrain favors the attacker because of large expanses of flat agricultural land, and excellent road and rail communications that allow rapid movement overland.

The Warsaw Pact advance overland would be supported by one or more amphibious assault landings along the Schleswig-Holstein coast, notably in the proximity of Kiel and some locations along the eastern coast of the Jutland peninsula. The Warsaw Pact amphibious ships, and commercial roll-on/roll-off ships deployed in the Baltic, are reportedly adequate to provide lift for at least three divisions in the first wave. The seizure of the island of Zealand would probably be accomplished by a combined assault from the sea and air, in which at least one, or possibly two Soviet airborne divisions would be used. The island of Bornholm would also be seized by the Warsaw Pact forces, through the use of both amphibious and airborne assault elements, in order to strengthen the control of the western Baltic.

Sweden's neutrality would not worry the Soviets as long as that country's airspace and coasts are not used by the NATO forces. Nor would the Soviets have any need to violate Sweden's territory in mounting their offensive against northern Norway. However, any sign of weakness on the part of Sweden in defending their neutrality would most likely prompt the Soviets to use Sweden's ports and airspace in their conflict with NATO alliance. Sweden's navy and air force are unlikely to deter the Soviets from using their

naval assets on the open ocean once they obtain the control of the Danish straits.

The Soviet seizure of the Danish straits would not in itself guarantee unhindered access of their ships on the open ocean, unless southern Norway's airfields were neutralized. Southern Norway with its excellent airfields and naval installations represent the very heart of NATO's northern flank, but the Soviet occupation of northern Norway would place the southern part of the country in jeopardy. Once consolidated in the north, the Soviets must be expected to continue their drive southwards until all of Norway would fall under their control. From here the Soviets would be within striking distance to dominate the western entrance to the Baltic, should their southern thrust fail to seize the Jutland peninsula.

In another scenario, the Soviets could occupy southern Norway by mounting an amphibious assault after they obtain control of the Danish straits. Such a Soviet move would most likely take place providing the Soviets had already seized northern Norway. They could then be able to mount an overland drive southwards towards Oslo combined with an amphibious landing along Norway's southern shore. In such a scenario, the Soviets must neutralize airfields in southern Norway to prevent the arrival of the Allied reinforcements, and also interdict NATO's SLOCs to the Norwegian ports.

Implications for the NATO Alliance

The enormous military potential of the U.S.S.R. and its two Warsaw Pact allies deployed on the Kola peninsula and in the Baltic area pose some serious questions as to the viability of NATO's northern flank, both in peacetime and in wartime. Obviously, a major conflict between NATO alliance and the Warsaw Pact would not be decided on the NATO's northern flank but it could definitely be lost there. The fall of Norway, or even only northern Norway, would place in jeopardy the NATO alliance position in the Northern Atlantic, the North Sea and the English Channel.

The successful interdiction by the Soviets of the U.S./NATO supply routes across the Northern Atlantic would spell the end of the conflict on the Central Front. Hence, the NATO alliance must be capable of maintaining control of the Greenland, Iceland and Faeroes, which besides Norway comprise principal elements in defense of the Northern Atlantic. It is essential that the alliance obtain and sustain sea control of the Norwegian Sea. In the event of a major conflict, initial care must be taken in the employment of U.S. CVBGs in the northern part of that sea until the Soviet bomber strength on the Kola peninsula is sufficiently weakened. Early use of the CVBGs against bases on the Kola peninsula would place the carrier task forces under constant threat by the Soviet land-based bombers and submarines, and probably even Soviet missile-armed major surface combatants. The effectiveness of land-

based aviation against ships at sea was amply proven in World War II, and there are no better examples than the German Luftwaffe in the battles of Crete and Malta. However, the Soviet bombers would be highly vulnerable in their transit from their bases on the peninsula southwards through the GIUK Gap to concentrated attacks carried out by the NATO fighter interceptors. Whoever controls the air over northern Norway and adjacent seas would ultimately win the battle for Norway. Therefore, the NATO alliance must find the ways and means to obtain and maintain air superiority there.

The control of the western part of the Baltic and the Danish straits is intimately tied to the control of the northern flank of the Central Front. Such a control would act as a hinge upon which swings the ultimate fate of Norway. The crucial role in defense of the Jutland peninsula and adjacent islands has to come from NATO reinforcements. Yet, the Danes must be prepared to wage a defense-holding operation on the land front against superior Warsaw Pact forces until the U.S./NATO reinforcements reach the scene. Otherwise, the control of the Baltic approaches by the NATO alliance might be lost at the outset of conflict.

It is necessary that the Danes have adequate stocks of mines to carry out closure of the Danish straits. Once hostilities start, NATO must be in a *high* state of readiness to conduct an extensive mining campaign elsewhere in the Baltic, in order to bottle up the Warsaw Pact naval forces in their bases and inflict losses to their ships at sea. Mining should be used also in blockading the Soviet bases on the Kola peninsula.

The battle control of the western Baltic would be decided in the air. Hence, NATO must possess adequate forces to obtain air superiority over the Baltic approaches. NATO should use primarily fast attack craft supported by tactical strike aircraft, small submarines and mines to maintain its control of the western part of the Baltic. U.S./NATO major surface combatants, including destroyers/frigates should not be employed there in wartime, even with strong protection from the air.

In the face of a major conflict, NATO's foremost problem would be how to deter the Soviets from exercising their envelopment option in the first place. The Soviets will be tempted to make an offensive move against Norway or Iceland, or the Baltic approaches only if the level of regional deterrence in peacetime is low. Too great a preoccupation with the defense of the Central Front by the NATO alliance might lead the Soviets to believe that they could reduce the attendant military and political risks by taking an offensive action against Norway, or even Denmark. And conversely, any further weakening of NATO's northern flank would seriously undermine the credibility of NATO's defensive posture on the Central Front.

Obviously the NATO alliance cannot match the Soviets and their Warsaw

Pact allies on the one-to-one basis in terms of raw military power deployed on the Kola peninsula and in the Baltic. However, the alliance can offset some of the Soviet military superiority in the area by a series of military, political and economic moves all intended to increase the level of regional deterrence. The security of NATO's northern flank is essentially a naval problem. The political military and economic considerations all have maritime connotations and are intimately interwoven with the geostrategic features of the area.

The ever-growing Soviet threat to the security of NATO's northern flank can best be countered by more frequent deployment of U.S. CVBGs in the Norwegian Sea, plus permanent deployment of the U.S. SLCM-armed submarines elsewhere in the Northern Atlantic. Such a forward posture would signify both to the Soviets and NATO allies the strength of U.S. commitment in defense of Norway and the Baltic approaches.

The critics argue that such a move would further exacerbate tensions in an area where "careful" political management has attempted to maintain tensions at the lowest possible level. Moreover, the U.S. forward posture designed to put the Soviet military complex on the Kola peninsula under semipermanent threat from the U.S. carrier-based aviation and SLCM-armed submarines and surface ships could prompt the Soviets to extend their zone of defense as far as the southern part of the Norwegian Sea. Thus, the critics say, the Norwegian Sea may become another area of superpower confrontation, as the Mediterranean is, with all the attendant risks such a deployment of rival naval forces would entail in times of heightened international tensions.

The Soviet behavior so far, however, does not give much hope for optimism as far as northern Europe is concerned. Without U.S. forward posture in the area, the Soviets would continue to have almost a free hand in their policy of intimidation and pressure against the Scandinavian countries, Norway in particular.

The preponderant Soviet naval strength in the northern seas can partially be offset by forward deployment of U.S. naval forces in the area. Any Soviet move against Norway on the land front could be prevented by the deployment of larger standing force in northern Norway. Foremost, however, the NATO alliance must assign larger numbers of troops and tactical aircraft to reinforce forces defending northern Norway and the Jutland peninsula with its adjacent islands. Any Soviet offensive move against Iceland could be deterred by permanent or semipermanent deployment of NATO ground troops and the establishment of strong anti-air defenses on the island.

The Warsaw Pact superiority in the Baltic could further be offset by promoting the continuing neutrality and defensive capability of Sweden. Finland should also be encouraged to maintain its present status, and should be discouraged towards any closer military cooperation with the U.S.S.R.

Finally, the NATO alliance should exercise its ships and aircraft in the Baltic more frequently, despite attendant political problems, thereby weakening the Soviet claim to regard the Baltic as *mare clausum*.



The Old Navy

After leaving Bermuda we ran into a storm of cyclonic proportions. It was during a lull in this gale that old Eagan died and was buried. The barometer fell to 29.03 and the wind blew with hurricane force from N.W. It was a grand funeral with the fierce wind of the North Atlantic howling through the rigging, louder than the pipes of the organ of St. Peter's. The snow was blinding, lying thick on the weather shrouds, from which the violent motion of the ship would shake it off to the deck below. The sea was running high, and occasionally a wave tumbled on board to dash itself around on deck until drained off through the scuppers and freeing-ports.

We were under short sail, lying to under steam and mizzen storm stay sail and mizzen stay sail. When the grey dawn broke the ship was rolling through an arc of 59° in a heavy sea. At 11 a.m. came the call. "All hands bury the dead."

The weather was clearing a little, but the sea was still wild. The funeral was held under the break of the forecastle, where all the crew and officers were crowded together. Mr. Cook read the Episcopal service, but his voice could be heard only by those closest to him, for the voices of wind and sea drowned his words.

The body, sewed up in a hammock and covered by the flag, was taken aft on a board, the bearers staggering along to the lee gangway hardly able to keep on their feet. The end of the board was placed in the gangway. Then watching for a smooth rime, at the words, "We commit his body to the deep," the inboard end was raised, and the body slid into the water dragged down by an eleven-inch shot attached to the foot of the hammock.

Turning to Mr. Manning, the boatswain, Mr. Cook said, "Pipe down, Sir." The men went forward and lighted their pipes at the oil lanterns that hung from the beams near the galley and the daily routine was taken up.

- *The Admiral,*
The Memoirs of Albert Gleaves, Admiral, USN
 (Pasadena, Calif.: Hope Publishing, 1985), pp. 25-26.