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A Commander's Dilemma

Admiral Yamamoto and the "Gradual Attrition" Strategy

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ANY MILITARY COMMANDER HAS THE ULTIMATE responsibility for achieving his missions and objectives. In most cases, however, the commander must overcome deficiencies that hinder the achievement of his mission. These shortcomings may include insufficient force, poor equipment, and, sometimes, unsuitable military strategy. These deficiencies can be seen as a discontinuity between planned factors, such as strategy, tactics, forces, and training, and the actual execution of the mission. But whatever they may be, the operational commander must overcome them and make the best use of the forces assigned to him. Normally, the smaller the discontinuity, the easier it is to achieve the mission.

In this article I propose to extract the pertinent lessons from a real case and develop ideas for minimizing these discontinuities.

The Strategy of the Imperial Japanese Navy: "Gradual Attrition" of the U.S. Pacific Fleet

Before World War II, the major threats to modern Japan were traditionally Russia and China. In the late nineteenth and early twentieth centuries, Japan fought two wars, on the Korean peninsula and in Manchuria. The major objectives of these campaigns were to halt the expansion of China and Russia and to establish a buffer zone between those countries and Japan. These objectives were partially achieved by the advantageous treaties that ended the wars. Later, Japanese interests were believed to lie in Manchuria, and the Japanese

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concern was how to protect those interests from the northern threat. Russia, and then the Soviet Union, accordingly occupied the center of Japanese national strategy for many years. During this period and into the 1920s, the United States was not perceived as a major national threat to Japan.

With regard to naval strategy, the objectives of the Imperial Japanese Navy, or IJN, before the end of the Russo-Japanese War in 1905 were to secure the lines of communication between Japan and the Korean peninsula and the eastern part of China, including Manchuria. This was to be done by establishing sea control around Japan—that is, in the Sea of Japan, the Tsushima Strait, the Yellow Sea, and the East China Sea. To accomplish this, the strategy of the IJN had long been to destroy the Chinese or Russian fleet in the region. If the enemy, or an ally of his, attempted to bring in reinforcements, the Japanese naval goal would become to destroy the enemy forces separately, before they could be combined.

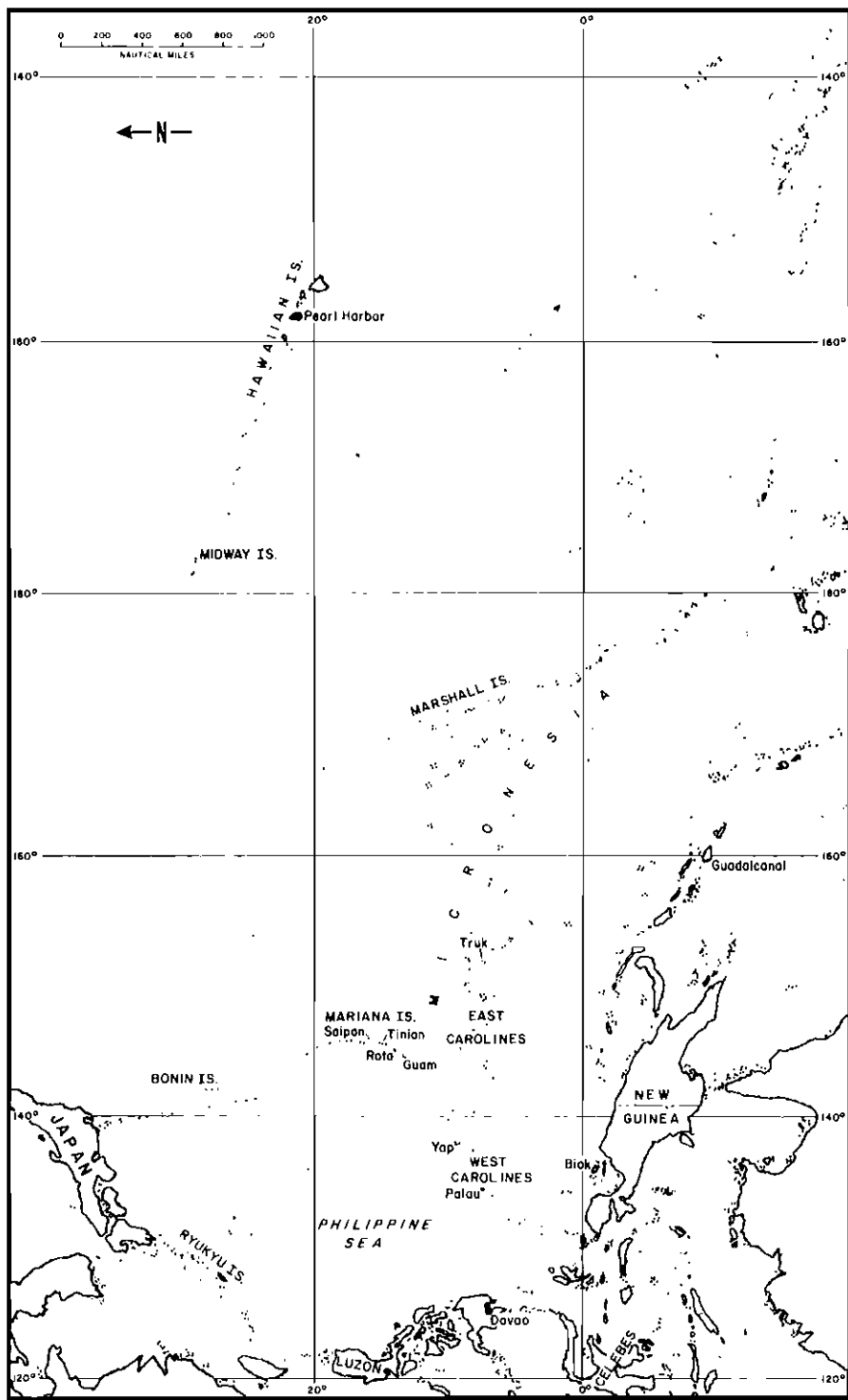
The IJN fully achieved its objectives during the wars with China and Russia. Therefore, because practically no naval threats remained nearby capable of countering the IJN, its main mission after the Russo-Japanese War was to preserve the status quo in the region.

Shortly after the end of that war, and in fact two or three years after the U.S. Navy began work in 1907 on its “Plan Orange” for a war with Japan, the IJN started a staff study at its own war college focusing on a hypothetical war with the United States. The intent was to counter the Orange Plan, about which Japan had learned; however, the response long remained merely a “staff study” in nature. Its focus was on how to destroy a U.S. fleet steaming westward across the Pacific toward Japan during war; it concluded that the best IJN strategy would be to assume a defensive posture in the western Pacific. That is, the Japanese fleet would first destroy, in the early phase of the war, the small U.S. naval forces already deployed in Asian waters, then ambush and intercept the main U.S. fleet in Japanese waters. To accomplish this with a fifty-percent chance of success in the fleet engagement, the study indicated that at a minimum the Japanese fleet must be seventy percent as large as the U.S. fleet.

The idea of intercepting the U.S. fleet in Japanese waters (that is, south of the Bonins) and the supporting seventy-percent theory spread very quickly throughout the Imperial Navy. Soon these two ideas dominated the navy, as if the U.S. fleet were the real enemy.

After the naval limitations treaties in Washington (1922) and London (1930), the IJN began to sense seriously its numerical inferiority to both the United States and the British navies. This sense was exacerbated by the fact that the treaties defined the ratio of Japanese capital ships to those of the United States and Great Britain as sixty percent (5:5:3, or in actual numbers after 1930, 15:15:9), which was ten percent lower than Japan's naval theorists believed necessary and had proposed to the treaty framers.

Koda: A Commander's Dilemma: Admiral Yamamoto and the "Gradual Attrition"



Early in the 1930s, the Japanese navy reviewed and revised its earlier study, now known as the "gradual attrition" strategy. Radically new ideas were introduced into it, while preserving its defensive posture. New equipment, tactics, training, and even fleet organization were then developed to support this strategy.

After 1937, as differences between Japanese and American perceptions of China emerged as a major problem, for the first time the Japanese navy began to see the U.S. Navy more as a realistic threat and less as a hypothetical one.

Operational Concepts, Tactics, Equipment, and Training. The main objective of the Imperial Navy's strategy of gradual attrition was to reduce U.S. fleet strength to equality with that of the Japanese fleet before the culminating battleship engagement could begin. To achieve this, the navy planned a series of engagements by submarines, aircraft, and other forces during the U.S. fleet's long transoceanic expedition. The battleship engagement would not take place until the Americans had reached Japanese waters and was intended to be the final battle in a decisive campaign. Its winner would have total sea control in the western Pacific. The victor's government would then offer to negotiate the terms by which the war would be ended.

The Imperial Japanese Navy expected to be that victor and developed various means to ensure the success of its concept. These means included the vigorous use of submarines, the fleet air force, and night torpedo actions by heavy cruisers and destroyers. The ships and aircraft to be so employed were of very high quality, as were their officers and men. Their operational and tactical employment went far beyond existing naval practice elsewhere. All together, they were expected to make up for Japan's numerical inferiority.

Submarines. The concept was for submarines to attack the U.S. fleet, especially its battleships, incessantly, beginning at the moment that the fleet sortied from the West Coast or Hawaii and then continuing throughout its Pacific transit. After the initial submerged torpedo attacks, the submarines were to retire tactically but maintain contact from over the horizon. They were to proceed simultaneously to successive ambushing positions, attack again, and then repeat the process, over and over. This task required that the natural handicaps characterizing submarines of that time be overcome. These handicaps were their short endurance, poor seakeeping qualities, low surfaced speed compared to that of other combatant ships, poor communications, and inadequate reconnaissance capability.

The Imperial Navy overcame these handicaps in its newest and best submarines. These submarines displaced 2,500 tons, much more than their counterparts in other navies. This size gave the boats both longer endurance than other submarines and room for more torpedoes needed to make the repeated attacks the concept called for. Also, their large hulls guaranteed much better

seaworthiness and a sustainable top speed of twenty-three knots, which exceeded the cruising speed of U.S. battleships by five knots. This advantage was expected to enable the submarines to overtake their intended victims even while remaining over the horizon. To make up for their poor reconnaissance capability, these boats carried a collapsible seaplane. Furthermore, Japanese submarine tenders and light cruisers that were flagships of submarine squadrons had excellent seaplane facilities, along with good command-and-control capabilities.

But the submarines' designers had to pay a price for this high performance. For it they traded habitability, noise suppression, covertness, and the ability to produce the new submarines in large numbers.

Land-Based Naval Aviation. The Japanese navy came to pay unusual attention to land-based air because such aviation was not included in the two naval arms reduction treaties. Hence, it relied heavily on that arm to help offset the fleet's numerical inferiority in all types of surface ships. The employment concept for land-based attack aircraft was for them to coordinate their torpedo attacks on U.S. battleships with those of the submarines as the enemy approached the chain of Pacific islands under Japanese trusteeship.

The aircraft were to make their torpedo attacks at very long distances from the bases, before those bases could be attacked and destroyed by U.S. carrier strikes. They practiced mainly simultaneous massed torpedo assaults at extremely low altitude. High-altitude level bombing was their secondary mission. It was foreseen that using numerous island air bases would offer flexibility and mobility; therefore, when the treaties which had prohibited the fortification of these islands became null, many air bases were planned and built on them.

In spite of Japan's relatively poor industrial capability, the Imperial Navy endeavored to develop aircraft suitable for this mission. Proposed characteristics included a payload of one two-thousand-pound, eighteen-inch aerial torpedo and an operational radius that substantially exceeded that of U.S. carrier-based aircraft. The navy developed two successful types of twin-engine models, the Type 96 (Nell) and the Type 1 (Betty) attack aircraft. These traded self-protection for their long endurance and high payload.

Carrier-Based Air Forces. Until 1941, when the Japanese navy developed the idea of a multi-carrier task force, the Japanese concept of carrier (CV) employment was similar to that of the United States and British navies of the time. These two navies expected their carriers to engage other CVs as well as battleships. The latter were considered to be the more difficult target; accordingly, the carrier's mission was simply to damage them and then pass the wounded victims to "friendly" battleships for finishing off. In a CV-versus-CV engagement, the main mission of carrier aviation was to destroy the enemy before they could launch their own attack aircraft or, failing that, to intercept the enemy attack before it reached friendly battleships.

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Accordingly, various kinds of carrier-based fighters, dive bombers, and torpedo bombers were developed in the IJN. It was extremely difficult, however, to reverse the long-standing reliance on battleships; the Japanese carrier aviators had to wait until the fleet exercise of 1940, when the new Zero fighter, the Type 99 dive bomber (Val), and the Type 97 torpedo bomber (Kate) showed their overwhelming superiority over battleships.

The Imperial Navy was confident that only one, or maybe two, fleet engagements would be needed to bring the war to an end. It expected little attrition of its CV air force. Unfortunately, therefore, prior to the Second World War it had built up no substantial reserves of CV air wings and aviators.

Surface Torpedo Forces. A massive surface torpedo attack was to be the last event before the battleship engagement, and it was expected to all but destroy the U.S. fleet. Because of the torpedo's destructive power, the Imperial Navy laid extreme emphasis on development of, and tactics and training for, this weapon. One notable technical advance was the "Long Lance" torpedo, which had a longer range, a higher speed, a larger warhead, and made less wake than any torpedo in any other navy. There were two types of Long Lance, the twenty-four-inch-diameter weapon for use on board surface ships and the twenty-one-inch for submarines. (As already noted, aircraft torpedoes were smaller than either of these.) At the same time, the navy developed a torpedo reloading system for destroyers and cruisers that was second to none at that time. Unlike all other navies, the IJN planned to employ its heavy cruisers (CAs) in the torpedo engagement. So, alone among navies, all of Japan's heavy cruisers had a heavy torpedo battery with both a fire control system and the rapid reloading arrangement.

Thanks to the superb performance of the Long Lance, daytime attack at extreme range, ten to twenty nautical miles, became the standard Japanese torpedo tactic. Each ship was capable of launching eight torpedoes at one time, with eight reloads. At that range, four ships—for a total of thirty-two torpedo fire-lines—were to launch at each U.S. battleship.

The Imperial Japanese Navy also practiced night torpedo assault at closer range, about five miles or less, in order to take advantage of the enemy's confusion in the darkness. The Imperial Navy persevered for decades in training at these tactics in spite of several severe accidents. These mishaps mainly involved destroyers and their light cruiser leaders during high-speed night assault runs. But the strong sense of purpose that the navy's torpedo men felt overrode such difficulties. Thus, the navy eventually gained a quiet confidence and pride in its night torpedo operations—about which its prospective opponents were completely unaware.

Battleships. Battleships had been the capital ships in all navies for decades. The Japanese navy was no exception and had taken the lead in introducing fourteen and sixteen-inch guns. The lessons of the First World War, especially

the Battle of Jutland, accelerated the tendency in all the major navies to seek extremely long-range engagements with large-caliber guns. This view dominated most naval leaders, including those of Japan.

To maintain qualitative superiority and maneuverability under the treaty constraints, the designed top speed of Japan's battleships was twenty-five knots, which made them faster by four knots than the United States' battleships. In order to make possible a successful long-range gun engagement, the IJN also developed an optical spotting and range-finding system that gave better performance than those of other navies, even at a distance of over 40,000 yards. The range finders and spotting gear were installed at the tops of very tall bridge structures more than forty meters high. To make best use of this advanced equipment, battleship gun spotters were specially selected from among teenaged sailors and then trained for years. They were regarded as the treasures of the Imperial Navy.

Thus, the navy believed that a battleship gun engagement against the U.S. fleet, a fleet whose strength would have already been reduced to equality or less by the cumulative effect of earlier attacks, would be the culminating phase of its gradual attrition strategy.

Order of Battle. The order of battle of the Combined Fleet closely reflected its strategy. The fleet's standard order of battle before 1940 was: 1st Fleet, a battleship force with escorts, for decisive gun engagements; 2nd Fleet, comprising cruiser and destroyer forces, for torpedo engagements; carrier divisions, support forces for the 1st and 2nd Fleets; Advanced Force, the submarines; and, the Land-Based Air Force.

The Discontinuity between the Plan and Its Execution

A new Japanese national objective, that of securing vital natural resources in the Dutch East Indies and Malaya, arose in 1939–1940, reflecting the international situation at that time. The additional task changed Japan's national security concept rapidly and drastically. Independently of this development, the remarkable performance of the carrier air force triggered the development of a new fleet operational concept in which the carriers were to concentrate and become the Combined Fleet's main striking force. Primarily, then, in order to comply with a changed national objective, the Imperial Navy had to change its strategy from defense of its country's territory and possessions against a fleet coming from the east to a new offensive strategy, one that would both secure the necessary resources to the south and also take full advantage of the revolutionary new carrier air force.

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A new offensive operational plan was developed during 1941 in a number of argumentative meetings between the Naval General Staff in Tokyo and the headquarters of the Combined Fleet. It is a fact that the idea of a carrier striking force was brilliant. However, the new offensive plan was far different from the long-understood strategy upon which the navy had built and trained its fleet. The problem was, then, how well the navy would integrate all its resources into the framework of the new concept.

Admiral Isoroku Yamamoto, Commander in Chief Combined Fleet, initiated the idea of the Hawaii operation by the carrier striking force. His chief dilemma was how, in a very short time, to reorganize and retrain his fleet as well as reeducate his officers. Another was that his resources, which had been designed for the defensive concept, were insufficient for the offensive operations necessary first to secure and then to hold the widespread Southeast Asian regions. More than that, Admiral Yamamoto had to make sure that Japanese shipping could sail safely between these regions and Japan.

The Combined Fleet's actual order of battle as it was reorganized to meet its new missions at the beginning of the Second World War in the Pacific is given in the table. The table gives, when compared to the previous order of battle described above, an idea of the magnitude of the deviation of the new plan from the traditional one. Consequently, the Japanese navy only barely managed the first phase of the war, and what came next was, as is well known, devastating.

There were several reasons for the failure. Admiral Yamamoto tried to bridge the discontinuity between the fleet he had and the tasks he had to accomplish by applying the new operational concept of the carrier striking force. However, the gap was too large for a single admiral to close. The Imperial Japanese Navy had concentrated its efforts on the strategy of gradual attrition too much and too long to adjust itself quickly to the new concept, and consequently it failed. Additionally, Japanese industrial capability was too primitive to support the navy's quick conceptual change.

Lessons for the Future

Other leaders have been in similar situations, and will be in the future. This case presents some important lessons for today's strategic thinkers and operational planners.

Coordination between Political Objectives and Military Capabilities. Political leaders must give service chiefs and operational commanders sufficient flexibility to prepare their forces fully to support national war objectives. On the other hand, service chiefs and operational commanders should not make easy compromises with politics; they should not lightly acquiesce in impractical political

Combined Fleet Order of Battle, 1941

- **Main Force** (strategic reserve): BBs, CVLs, CLs, DDs
- **Hawaii Force** (CV striking force): CVs, BBs, CAs, DDs, SSs
- **Advance Force**: SSs
- **Southern Force**: BBs, CAs, DDs
- **Malaya Force**: CVLs, CAs, DDs, SSs, Land-Based Air
- **Philippines Force**: CVLs, CAs, CLs, DDs, SSs, Land-Based Air
- **South Pacific Force**: CAs, CLs, DDs, SSs, Land-Based Air
- **Wake Island Force**: CLs, DDs, SSs
- **Gilbert Island Force**: DDs, SSs
- **Midway Island Force** (shore bombardment): DDs
- **Northern Force**: CVL, CLs, DDs

Key:

CV—Aircraft Carrier

CVL—Light Aircraft Carrier (Seaplane Tender)*

DD—Destroyer

SS—Submarine

BB—Battleship

CA—Heavy Cruiser

CL—Light Cruiser

*An IJN CVL was a seaplane tender, and its air wing deployed as an attacking force.

aims. This is especially meaningful when there is a substantial change in national objectives.

Admiral Yamamoto was not given sufficient time to prepare his forces to meet the new objective and to develop its supporting strategy. He had to go into the war as the navy's "ace" with insufficient force to carry out the new strategy.

With regard to compromises with politics, Admiral Yamamoto has been considered to have made a fatal one in keeping silent when the government was deciding on war. Earlier, during his tour as vice navy minister, Admiral Yamamoto had made strong political efforts to avoid war with the United States. However, after he assumed the duty of Commander in Chief Combined Fleet, he rarely made his political views known. In general, so far as the navy was concerned, political affairs had been the province of the navy minister; as the navy's leading war fighter, Yamamoto's silence seems correct. But he himself knew that his Combined Fleet was not prepared and could not win final victory

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over the U.S. fleet. He should have made a straightforward input into Tokyo politics, through the navy minister, Admiral Shimada, or the Chief of Naval Staff, Admiral Nagano, but he did not. Of course, to do so was not the responsibility of Admiral Yamamoto alone but of all three naval leaders at that time. All made that fatal easy compromise with Prime Minister Tojo and his supporters that led the nation to disaster.

Alternative Strategies Able to Meet Various Conditions. Military leaders must develop strategic alternatives for fluid situations. In addition, force buildup, tactics, and training must be flexible enough to cover more situations than just those hoped for. Leaders should not depend on a single strategy, for that narrows their future choices, perhaps fatally. We should bear in mind especially that a poor strategy cannot be made up for by even superb equipment, tactics, and training.

Its long reliance on a single strategy fundamentally narrowed the Japanese navy's options and hindered its quick and smooth transition into the new concept imposed upon it. The U.S. Navy's approach to the problem was in strong contrast. The Americans had developed several "Orange" and "Rainbow" plans; that gave them a certain degree of flexibility, which in turn enabled them to shift smoothly from their initial defensive stance to an offensive one.

Technological and Conceptual Flexibility. Because the impact of technological and conceptual developments on naval strategy and tactics is tremendous, a navy's operational doctrine must be flexible enough to absorb such future development. In other words, however close to perfection doctrine may be, if its technology and concepts are stale, it will be made completely obsolete and worthless when confronted by the new.

The tactics of the Japanese navy's torpedo force and land-based aviation were successful; the surface actions around Guadalcanal and the air engagement against the HMS *Prince of Wales* and *Repulse* are examples enough of that. However, they failed to make decisive contributions to the end results of the war. Both torpedo forces and land-based aviation needed the support of that strong maritime air superiority which only a sufficiently powerful and resilient carrier-based air force can provide.

Furthermore, even the IJN's highly developed torpedoes and excellent night torpedo tactics, combined with its optical fire control systems and splendid gun spotters, could not match the powerful and modern technology of radar that the Americans had. In contrast to the Japanese, who had brought old technologies and skills to the peak of perfection, the Americans brought to a powerful new technology new skills that not only overshadowed those of the Imperial Navy but stood at the beginning of their developmental potential, not at the end.

Proper Extraction of Lessons from the Previous War. One of the most important things military leaders and planners must do in developing strategy and tactics is to draw the proper lessons from the previous war. They must then implement those lessons in their future strategy and tactics. If they labor under some misconception, planners will be unable to develop healthy strategies and tactics.

The Imperial Navy's employment concept for submarines, which was developed from the lessons of the First World War, is an example of such a misunderstanding. Perhaps more than any other navy, the Japanese navy saw in the capability of submarines a large part of the solution to its problem. It tried to extract lessons from the viewpoint of a fleet engagement, not of commerce raiding or the protection of shipping. Accordingly, the Japanese navy concluded that if proper tactics were developed, submarines would be vital in future fleet operations. But as we know, the navy had overestimated the value of the battleship engagement; indeed, it tried to justify its long-held decisive battleship-engagement concept, or "dream," in various battles of the Second World War. True, Japanese submarines had some important successes, such as the torpedoing of the USS *Saratoga* (twice), *Yorktown*, *Indianapolis*, *Wasp*, and *North Carolina*. However, their overall operations in the war have been generally considered to be a failure.

Because the navy failed to extract lessons about the impact of submarine warfare on shipping, it was little prepared when Japan went to war in 1941 to protect the nation's merchant ships from enemy submarines. Despite the fact that the survival of Japan was heavily dependent on that shipping, which connected the distant Southeast Asian regions with Japan, the navy's antisubmarine warfare concepts, tactics, and training were primitive. When the navy's leaders realized the problem, it was too late to recover.

Lessons such as those discussed above are easy to understand but not easy to practice. Nonetheless, it is the responsibility of military leaders and planners to recognize and fully utilize them.

In the case of Admiral Yamamoto, there were too many serious difficulties for him to overcome. His choice of action, to attack the main enemy fleet in its base on the first day of war, might have been the best available. No one could have made a more brilliant decision than to employ carriers in a way that made them the prototype of today's carrier battle force. However, even Yamamoto could not bring victory to his fleet and nation. Of course, the final result of the Pacific War as a whole was a matter of differences of national capability; whatever its strategy and tactics might have been, there was no possibility for Japan to gain final military victory over the United States. But the question still remains: how well did the Imperial Japanese Navy make the transition from the long-dominant

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strategy of gradual attrition to the new one at the beginning of the war? Or, what would have happened if the navy had started the war with its familiar gradual attrition strategy?

The United States now stands at a turning point in terms of national objectives and strategy, in a drastically changed international situation. Consequently, its navy has just reviewed its strategy and has produced a new approach far different from the familiar one. One change involves a transition from a long-dominant blue-water strategy to one focused on green (that is, shallow) water. In this process, the leaders of the U.S. Navy also have many problems and will encounter many gaps. But the responsibility of preparing the navy to carry out the task that the national strategy will require—or, making no easy compromises, telling their own leaders it cannot be done—remains firmly on their shoulders and on theirs alone.

As a force of global importance, the U.S. Navy should not repeat the kind of mistake that the Imperial Japanese Navy made in the first half of this century. It is the eternal responsibility of the operational commander to fill the gaps between pre-hostilities planning and the real situations he faces. There is no other person who can bear this heavy responsibility.

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This Issue's Cover

The guided missile frigate USS *Fahrion* (FFG 22), with photographer Nancy Lurie onboard, breaks away from the port side of the Military Sealift Command oiler USNS *Leroy Grumman* (T-AO 195). USS *Samuel Elliot Morison* (FFG 13) remains connected to starboard, and a third frigate takes waiting station astern. The underway refueling occurred off Mayport, Florida, in late 1992 during a four-day exercise involving six FFGs, all Naval Surface Reserve Force ships, and the *Leroy Grumman*. Note that while the oiler's hull number is painted in the traditional way, that of the frigate alongside is darkened, using a Nato paint scheme to make it less conveniently readable for adversaries or potential adversaries. Official U.S. Navy photo, courtesy of the Public Affairs Office of the Naval Education and Training Center, Newport, R.I.