OPERATIONAL ART IN THE CONDUCT OF NAVAL OPERATIONS

A MONOGRAPH
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The practice of operational art was evident in the planning and execution of naval operations in the Pacific Theater during WWII. Admirals Nimitz and King clearly linked ends, ways and means to ensure that that operations were only undertaken with adequate resources, and the operations undertaken clearly supported the allied wartime strategy. The operations of all services combined to provide simultaneous attacks in breadth, as well as depth, and resulted in the destruction of the offensive military capability of the Japanese, as well as the destruction of their will to continue to fight.

Naval operational art, as expressed in the context of naval doctrine, may be a vehicle to reinvigorate the deliberate planning process within the Navy. Naval doctrine can also guide Joint and naval commanders in the optimum use of naval forces in future Joint operations. The increased emphasis on developing more specific doctrine, and refining the planning function for naval forces, can only serve to increase the relevance of naval force in future Joint operations.

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Operational Art in the Conduct of Naval Operations

I. Introduction.

While there is a sense in the Navy today that naval doctrine should and must be developed, questions remain about the proper role of doctrine in naval operations. The notion of operational art, which achieved a certain prominence in the U.S. military lexicon and thought processes in the nineteen eighties, and a place in joint doctrine in the nineties, has been omitted from recently drafted Navy doctrine. Not coincidentally, the deliberate planning process as described in joint doctrine and firmly ingrained in day-to-day Army and Marine Corps operations, has remained foreign to Navy officers, except those who have attended a war college course of instruction or served as planners on a joint staff. There is a decisive relationship between these two concepts, operational art and deliberate planning. The notion of operational art is linked inexorably to the deliberate planning process because success of the latter depends upon use of the former. The notion of operational art, defined broadly as "the employment of military force to attain strategic goals in a theater of war or theater of operations ...," is essential to the design of operational plans. Therefore, it should come as no surprise that the Navy's neglect of deliberate planning has hindered acceptance of the concept of operational art, largely because a clear requirement for its use has not been established.

While the Navy has not followed the deliberate planning process outlined in Joint Doctrine, this does not imply that the Navy does not plan for operational employment of ships and aircraft in pursuit of naval missions. The successful integration of air, surface,

and subsurface assets could hardly be accomplished by accident. The methodology used by the Navy to accomplish complex fleet operations reflects a planning process driven, not by fixed duration campaigns or sequenced major operations, but instead by the traditional naval missions of overseas presence and crisis response as actions in themselves, more than means to strategic ends. Operational art, while linked primarily to campaign planning, may well be applicable to future naval operations, regardless of the chosen planning process.

This paper seeks to answer the central question, "Can the Navy derive benefits from the application of operational art?" In order to answer the central research question, this paper will address each of the following subordinate questions:

- What is Operational Art?
- Is there a precedent for the practice of operational art in naval warfare?
- What was the impact of the use of operational art in a given operation on subsequent Naval strategy, planning and operations?
- What could the concept of operational art contribute to future Naval Operations?

In order to establish a working definition of operational art for the purpose of this paper, a brief review of the development of operational art is required to lay the foundation. Based on the working definition, and in the context of the development of operational art, evaluation criteria will be adopted in to examine an historical Naval operation of sufficient extent and scope to have required some approximation of operational artistry, so defined. This paper will explore the use of operational art by Naval

forces in the Pacific Campaign of World War II. Next, this paper will investigate the impact of the experience of using operational art on subsequent naval thinking, as expressed in post-World War II Naval strategy and operations. The impact of doctrine and the linkage between planning and operational art will also be reviewed within the context of post-Cold War Naval operations. Finally, this paper will suggest possible benefits that the Navy could derive from the study/application of operational art.

II. Establishing Evaluation Criteria .

A. Historical Perspective

Soviet military thinkers of the 1920s and 1930s were the among the first to recognize that the realities of technical progress had introduced additional complexities into the art of warfighting. While maintaining a focus on large scale operations, the Soviets perceived that the strategy of a nation at war forged unavoidable links between large forward fighting fronts and the supporting rear infrastructure.[1] They recognized that military strategy must expand in scope to embrace an extensive host of activities that included the development of a broad national strategy, the management of diverse resources and the accurate identification of specific military objectives if military actions were to match the goals of the state.[2] A. A. Svechin of the Frunze and General Staff Academies understood that rarely could a modern military force achieve the ultimate military objective of combat operations in a single battle or even a single operation.[3]

Achieving this ultimate objective would require a series of intermediate military operations or battles, each separated by some unavoidable and observable pause.[4]

Soviet military thinkers recognized that the realities of modern warfare had rendered obsolete the initial assumptions on which Napoleonic warfare was based, and some new approach to warfare was required.[5] The understanding that logistics, which encompassed both the provision of required supplies and the movement of forces in theater, ultimately determined the scale, shape and depth of the battlefield, forced a conscience differentiation between discrete battles and operations.[6] In large scale operations, tactical actions (battles) would provide the building blocks from which operational advances would be constructed, always moving in the direction dictated by the overall national strategy.[7] Svechin, in his 1927 work *Strategy*, first proposed the concept of operational art as a distinctly separate category of military art, bridging the gap between national strategy and tactical actions.[8]

The difference between classical strategy and operational art is articulated most clearly by Dr. James J. Schneider: "Where Clausewitz had defined (classical) strategy as the use of engagements for the purposes of war, operational art is the use of the operation for the purpose of (modern) strategy."[9] But, given the concept of operational art as proposed by Soviet military thinkers, what really distinguishes it from past classical military strategy? The central distinctive characteristic of operational art is the employment of military forces in distributed battle and in depth.[10] Prior to the practice of operational art, the classical concentrated army required little or no external coordination and its central focus was the movement to contact, followed by a single decisive battle of annihilation that decided the campaign, if not the war. Napoleon simply refined the

classical strategy to include concentric maneuver prior to concentrated battle, but he never really integrated his operations.[11] The use of operational art in the planning and execution of a campaign results in operations characterized by extended maneuver and deep battle. Simultaneous and successive battles are in turn linked to support a common goal or endstate within an operation. It is the distributed nature of the operations (separated in time and/or space but none the less integrated in purpose) that makes operational art clearly different from classical strategy.

The Soviet focus on deep operations within the concept of operational art requires mobilizing and coordinating often very dissimilar elements of combat power to achieve the desired results. The object of the Soviets was to attack an enemy nearly simultaneously throughout his depth to effect the complete disintegration of the ability and will to fight.[12] The introduction of new technologies and longer range weapon systems in those days required considerable effort to combine the elements of combat power into a cohesive effort. The operational commander had to integrate the diverse effects of a modern force, across a large theater of operations. Operational art provided him the tools to achieve this necessary integration.

B. U.S. Military Perspective

The humiliating defeat of U.S. forces in the Vietnam War sparked a doctrine revolution within the U.S. Army, and renaissance in military thinking within the U.S defense establishment. Army leaders sought to recharge and reshape the Army into a force capable of defeating the Warsaw Pact forces in Europe.[13] Development of new

weapon systems and a new training philosophy proceeded in parallel with doctrine development in order to focus and transform the Army into an effective and highly trained combat force.[14] Army leaders took the first steps with the publication of the 1976 Field Manual (FM) 100-5, *Operations*, which had as its central focus "active defense."[15] This concept was based on the employment of emerging precision-guided weapon systems in a series of delaying actions.[16] The manual was rushed into publication with the realization and desire that it would be revised as military thinking formulated and refined solutions to the problems at hand.[17] Seen as defeatist in nature, the doctrine of active defense was roundly criticized for its emphasis on attrition-based warfare and on its defensive tone, regardless of the probable validity of the doctrine given the realities posed by land warfare in Europe at the time.[18] Despite the cool reception received by the initial effort at developing modern doctrine, the Army leadership had now fully joined the debate about the future direction of the Army.

FM 100-5 was revised and published again in 1982 and would be revised again in 1986. The 1982 version included the first reference to the operational level of war in the context of the new AirLand Battle doctrine, then in development to counter the Warsaw Pact forces in Europe.[19] In parallel, NATO planners in Europe were exploring methods to deal with a multiple echelon attack by the Soviets, but within the political realities of Europe.[20] Feeling that NATO forces could deal with the first tactical echelon of the attack, the question posed was how to defeat the second echelon of a Soviet armor thrust without resorting to the use of tactical nuclear weapons.[21] General Bernard Rogers, Supreme Allied Commander Europe, concluded that NATO forward defense would work if Warsaw Pact forces could be disrupted to a depth of 300 kilometers using conventional

aircraft and missiles.[22] This concept, known as Follow-On Forces Attack (FOFA), allowed U.S. planners to achieve the required operational depth that was politically unacceptable within West Germany.[23] FOFA also avoided the equally unpopular desire for cross border operations with ground forces, as implied in the AirLand Battle doctrine.[24]

Within the U.S military, and among defense thinkers, interest in the operational level of war continued to expand in the 1980s based on the study of open source Soviet doctrine, and the results of the conduct of the Vietnam War. This continuing thought process coalesced around the idea that there was a requirement for an operational level in future operations, particularly in light of the offensive maneuver warfare anticipated by FM 100-5.[25] As described by Dr. Richard Swain, "It had become increasingly clear, then, that the real artistry of war took place on a plain of action above the winning of a single battle."[26] In FM 100-5 (1986), operational art was finally defined as:

> ...the employment of military force to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations.[27]

Stating that operational art required broad vision and the ability to relate means and ends to strategy, FM 100-5 (1986) required the commander to answer the following three questions:

1. What military condition must be produced in the theater of war or operations to achieve the strategic goal?

2. What sequence of actions is most likely to produce that condition?

3. How should the resources of the force be applied to accomplish that sequence of operations.[28]

As the burden of planning and conducting Joint operations shifted to the warfighting CINCs under the Goldwater-Nichols Act of 1986, the need for developing Joint contingency plans forced operational art into the Joint vocabulary.[29] Joint doctrine has adopted a virtually identical definition of operational art to that used in Army doctrine; in Joint Publication 3-0, *Doctrine for Joint Operations*, operational art is defined as:

> The employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commander's strategy into operational design, and, ultimately, tactical action, by integrating the key activities of all levels of war.[30]

Joint doctrine directly links operational art to the Joint planning process, stating that Joint Force Commanders (JFCs) will employ operational art in the development of campaigns and operations, once in receipt of strategic guidance from the National Command Authority (NCA).[31] Joint doctrine goes on to lay out the fundamental elements of operational art, most of which appeared in discussions of operational art in AirLand Battle doctrine. These are:

Synergy
Simultaneity and Depth
Anticipation
Balance
Leverage
Timing and Tempo
Operational Reach and Approach
Forces and Function
Arranging Operations.
Centers of Gravity
Direct Versus Indirect
Decisive Points

Culmination
Termination.[32]

C. Working Definition and Evaluation Criteria

The definition of operational art that is contained in Joint Publication 3-0, *Doctrine for Joint Operations*, is the most appropriate definition of operational art to use both for examining a previous Naval operation, and looking to the planning and execution of future Naval operations. Some of the fundamental elements of operational art listed in Joint Publication 3-0 appear landcentric in nature and may have limited value in operations at sea. This is not surprising given their heritage in Army doctrine, in particular AirLand Battle and offensive maneuver warfare.

The criteria for evaluating past and future naval operations must come from both the Joint view of operational art, and the historical reasons for its development. The acceptance of operational art as a useful concept sprang from the obvious need for change following less than successful combat actions by both the Soviet and U.S. Armies. Unsuccessful Soviet-Polish combat actions in the Russian Revolution and the Red Army's failure to take Warsaw in the Soviet-Russian War, and U.S. failure in Vietnam, sparked debates within both armies that forced them to alter operational doctrine fundamentally. Operational art became important to the U.S. and Soviet Armies, not for the sake of an academic debate, but in light of the very real anticipation of future combat operations. Understanding the thought process behind the notion of operational art is just as important as knowing the definition when evaluating the concept's use in Naval operations in the Pacific Campaign of WW II, or its utility for future Naval Operations. Four criteria for

establishing the presence of and examining the use of operational art in a campaign are proposed, and will be used in the remainder of this paper.

1. Subordination to National Strategy. First, the planned military operations must be clearly subordinate to the national strategy. Second, intended military operations must be adequate to accomplish the objectives of the national strategy.

2. Coherence of Deep Distributed Operations. The planned operations are distributed in space and time, but are unified by a common aim, the accomplishment of the strategic objective.[33] The operations will likely be extended in depth as well as breadth so as to profit from the operational reach of all available weapon systems. These weapon systems will be employed in a manner to achieve synergy of their effects. While a campaign may consist of a single operation, in the fullest expression of operational art, the campaign would consist of simultaneous and successive operations.[34] Battles may be fought to maintain or deny freedom of action as well as for the purpose of destruction of an enemy force or capability. The decision to accept or deny any battle will be made based on the relationship between the battle and achieving the ultimate strategic goal.

3. Planning. Joint doctrine clearly links operational art to the planning process, in that campaign and operational plans are developed using operational art. Therefore, the staff planning functions necessary to execute a complex operational plan must be identified in advance and in place in the form of a recognized and workable planning process or methodology. Beyond the mechanical functions of the plan, the commander's intent must

be clear to all those who execute the plan if the desired results of the operation are to be achieved.

4. Logistics. The importance of logistics must be understood. This is not to say that all requirements will be met, but the availability or lack of resources must be taken into account in planning and executing any operations. The level of risk entailed as a result of the lack of resources must be part of the planning considerations.

III. Naval Operations in the Pacific Theater of WW II

A. Evaluation

1. Subordination to National Strategy

The overall allied strategy for fighting WW II was formulated prior to the U.S. entry into the war and deviated surprisingly little throughout the war's course. Allied staff talks in March of 1941 resulted in an agreement known as American-British-Canadian (ABC)-1, which established the European and Atlantic area as the decisive theater. The agreement called for establishing a defensive barrier in the event of war in the Pacific.[35] The defensive posture in the Pacific was to be maintained until forces could be made available for an offensive push on Japan. At the time, this arrangement resulted in little protest from Navy, and naval war plans for the Pacific were adjusted accordingly. In the

months prior to the attack on Pearl Harbor, Navy resources were stretched to the limit protecting allied convoys bound for Britain. Until the additional ships under construction were ready, there was little point in arguing for an offensive strategy in the Pacific. The Navy's perspective was dramatically altered on the morning of December 7th 1941 with the Japanese attack on Pearl Harbor.

Because of the initial decision to defeat Germany first, decisions on the exact conduct of the Pacific Campaign were delayed, pending the results of events in Europe. As a result, the Pacific Campaign strategy evolved over time. Military objectives were approved incrementally, at a series of strategic conferences held throughout the war. Immediately after the Pearl Harbor attack, the American and British staffs met at what was termed the Arcadia Conference, chaired by Prime Minister Winston Churchill and President Franklin Roosevelt. The two heads of government reviewed the planned conduct of the war.[36] Despite the intense displeasure evidenced by U.S. military leaders, who were clearly out staffed by their British counterparts, the "Europe First" strategy was sustained.[37] Events in the Pacific soon forced a deviation from the initial operational priorities reached at the Arcadia and ABC-1 Conferences.

An unbroken string of Japanese military successes in Asia and the Pacific, and a threat to the security of Australia, forced allied leaders to alter the priorities established at the Arcadia Conference. Presented with an opportunity to recast the Pacific Campaign, Admiral Ernest King submitted an alternate strategy to the President and the Joint Chiefs.[38] It included limited offensive operations in the South Pacific to stop the Japanese advance towards Australia, deny Japan control of the Coral Sea and the Solomons, and regain the U.S. position in the Pacific.[39] The initial military action, resulting from King's

alteration of Pacific strategy, was the Battle of the Coral Sea in May 1942. This battle resulted in the first operational defeat of Japanese forces in the Pacific War, and effectively checked Japan's southward expansion.[40] The Battle of the Coral Sea was followed by the decisive defeat of Japanese naval forces at Midway in June 1942, and derailment of their Solomons invasion in August of the same year. The end of 1942 found Japan on the defense in the Pacific, with its offensive power spent, and its ability to maintain its defensive island perimeter in question. In spite of the remarkable turnaround in the fortunes of the allies, not just in the Pacific, but in North Africa and at Stalingrad, there was yet no clear direction for future operations in the Pacific Theater.

At the Casablanca Conference, in January of 1942, there was broad disagreement about the directions of allied efforts, not just in the Pacific but in Asia, the Mediterranean, and Europe proper.[41] The Joint Chiefs were again out staffed and outmaneuvered by their British counterparts at every turn, except for Admiral King.[42] General George Marshall was unable to achieve a commitment from the British for a cross-channel invasion in 1943, or to stop the British from expanding the North African Campaign into Sicily and Italy.[43] King dug in his heals for increased resources to support renewed offensive actions in the Pacific Theater. His demand for resources was virtually impossible for the British chiefs to deny, given the planned delay in the cross-channel invasion of the European continent.[44] As a consequence of King's action, language was added to the Casablanca Conference agreement that included concurrence for offensive actions against the Caroline and Marshall Islands in the Pacific, in return for designating the defeat of German U-boats as the highest allied priority.[45]

At the Quadrant Conference in August 1943, following the defeat of the German U-boat threat, the allied chiefs gave the go-ahead for offensive operations aimed at the final defeat of Japan.[46] This still left open the question of which path U.S. forces would advance over in the Pacific; the Central Pacific route proposed by King and Admiral Chester Nimitz, or the southern route through the Philippines as championed by General Douglas MacArthur. With the question yet unresolved, the advance through the Central Pacific continued with the capture of the Marshall and Mariana Islands, putting the new B-29 Superfortress bombers in range of most of Japan.

President Roosevelt made the final decision to retake the Philippines, en route to Japan, accepting MacArthur's argument that the U.S. had a moral obligation to liberate the Philippines, and that it would make a better staging base than the Navy's preference, Formosa. Following the capture of the Philippines, the advance in the Pacific was to continue, in an effort to isolate Japan and prepare for an anticipated invasion.

In analyzing the Pacific Campaign, there was a clear national strategy, endorsed by all allies, that winning the war in Europe took precedence over the defeat of Japan. In every strategy meeting held during the Pacific war, the priority of defeating Germany remained unchallenged. Following Pearl Harbor, there was a conscious decision by all involved that the situation in the Pacific had to be stabilized before the allies could concentrate on Germany. Only when victory in Europe was assured, did significant men and material resources flow freely to the Pacific. Although strong personalities within the Navy leadership frequently questioned resource allocation, in the end all recognized the soundness of the original strategy.

While the capture of the Philippines was thought to be unnecessary from a military perspective, the decision was a political one that was made for reasons that often must and will supersede military necessity. In reality, MacArthur's advance through the Philippines diverted significant Japanese military resources from the defense of the Central Pacific and proved to be very beneficial to the Navy. The two-pronged thrust in the Pacific also served to keep the Japanese military permanently off balance.

2. Coherence of Deep Distributed Operations

The Pacific Theater, with its low density of land and broad expanse, was an area ideally suited for the conduct of naval operations in breadth and depth. Naval forces, including fast carrier task forces, amphibious assault forces and long range submarines, and the Army's long range bombers were suited for the extended-range missions that would be required to execute operations across the Pacific.

While each of the above implements of war possessed unique capabilities and drawbacks, they all had a common thread. These weapons, which would eventually win the Pacific war, were not the weapons with which the U.S. military started the war.[47] Weapons such as the Essex-class fast carriers and the Army's B-29 bomber were introduced only after Pearl Harbor. In the case of submarines, although the new longer range fleet boats were introduced prior to the war, insufficient numbers and poor handling negated their value at the start of the war. New tactics, often generated on the fly or at the expense of initial failure, had to be developed for these weapons to achieve their full potential.

For King, the strategic key to the Pacific campaign was the Marianas, and not the Philippines as suggested by MacArthur.[48] King wanted a move across the central Pacific, a direct thrust aimed at the Japanese homeland in accordance with the previous War Plan Orange, not an attack through the extremities of Japan's new found empire as suggest by MacArthur's plan.[49] In the central Pacific, the carriers would have the maneuvering room to operate freely instead of hindered by the constraints of the narrow channels of the Solomons, New Guinea and the Philippines.[50] King thought a parallel campaign through the Philippines would dilute resources from the Central Pacific, slowing the most promising path to a rapid victory against the Japanese. King wanted only to contest the minimum number of islands or island groups that would allow allied forces to directly threaten Japan and destroy the Japanese Navy. He felt that threatening the Marianas would force the Japanese Fleet into a Mahanian-style naval action that would result in their destruction. Control of the Marianas would cut the supply lines to the powerful Japanese naval base at Truk and end Japanese influence in the Pacific.[51] Ultimately, control the Marianas would allow a blockade of Japan that would force Japan's surrender. Execution of King's Pacific strategy would require the integration of carrier aviation and amphibious assault forces in deep attacks on Japan's outer, and then inner, defensive island chains.

Prior to WW II, carrier forces were not viewed as the primary weapon delivery platform that Navies used to fight sea battles or project power. Much of this was due to the relative novelty of carrier aviation and the performance limitations of the older aircraft embarked. Carriers were assigned scouting roles in support of battleships prior to WW II. Any question concerning the value of aircraft carries in naval combat operations were

largely swept away by the Japanese attack on Pearl Harbor. For the U.S. Navy, there remained a lingering uncertainty about the sea control and power projection roles that carriers would be expected to play in the Pacific Theater, and thus an initial apprehension by senior naval leaders in their use. This hesitation disappeared completely after the carrier aviation victories in the Battles of the Coral Sea and at Midway.

By the time the new Essex class carries arrived in the Pacific Theater, the concept of offensive carrier operations had been proven and was only waiting for new tools. In the Essex class carriers, the Navy found the perfect mix of tactics and technology, forever changing the face of naval warfare.[52] Rugged, capable of sustained operations, carrying a large complement of aircraft and with increased anti-aircraft defense, these ships virtually eliminated the dependence on land-based aircraft, and the related need for a progressive island to island drive.[53] Surrounded by defensive formations of cruisers and battleships to provide supporting anti-aircraft fire, carrier task forces could now drive through the Pacific at will, isolating island garrisons and preparing the way for amphibious operations.[54] With the Essex class carriers came radar directed combat air patrols, the devastating proximity fuze, and the introduction of the F6F Hellcat, which outperformed the nimble Zero.[55] Growing offensive carrier power sounded the death knell for Japanese air and naval power in the Central and South Pacific.

The first amphibious assault by U.S. forces in the Pacific Campaign, was the hastily thrown together operation to take the island of Guadalcanal in the Solomons in August 1942.[56] The operation, undertaken to forestall the Japanese initiative in the South Pacific, completely lacked the sophistication that would become the hallmark of amphibious assaults in the not too distant future. The hasty withdrawal of Admiral Fletcher's covering

task force compelled Admiral Turner to withdraw his amphibious transports and support ships, effectively stranding the Marines on the island.[57] Fletcher's apparent lack of willingness to risk his ships in support of holding Guadalcanal in the face of fierce Japanese attempts to retake the island hardly reflected the views of the Pacific Campaign's leadership. Far from an unwillingness to risk ships, the Navy continued to feed ships, men and aircraft into a battle of attrition that would result in the waters around Guadalcanal acquiring the nick name "Iron Bottom Sound." This willingness to risk the meager assets available in the Pacific, resulted from a clear understanding of the importance of the control of the Solomons in maintaining U.S. freedom of action and an eventual U.S. victory in the Pacific.

The drive across the central Pacific started in earnest a year later in November 1943 with the assault on the island of Tarawa by the Vth Amphibious Force, under the command of Admiral Kelly Turner.[58] This assault witnessed the first use of the newly developed amphibious tractors as well as other tactical innovations. Casualties sustained during the assault were unexpectedly high due to an inadequate pre-invasion air and naval bombardment, as well as the decision to attack prior to higher tides at the end of the month.[59] After securing the remainder of the Gilbert Islands, naval forces next assaulted the island of Kwajalein in the Marshals group. Taking to heart the lessons from Tarawa, the invasion was preceded by three days of intense air strikes and naval gunfire. Marines quickly overran the island, paving the way for an immediate assault on Eniwetok. In parallel, Admiral Marc Mitscher's Task Force 58 raided the Japanese fortress at Truk in the Caroline Islands, effectively eliminating Truk as a useful base of operations for the Japanese, and removing the need to invade the Carolines.[60] The conquest of the Marshals

became the model for future amphibious operations that would carry naval forces through the strategically important Marianas, onto Iwo Jima and finally Okinawa, the doorstep to Japan.

The U.S. submarine effort in the Pacific Campaign got off to a slow start as a result of poor operational doctrine, timid ships' commanding officers and unreliable torpedoes.[61] Japan was an island nation much like Britain, dependent on maritime transport for the raw materials to satisfy vital war industries and supply of distant garrisons on island bases making up her defensive barrier.[62] Unlike Britain, however, Japan failed to devote the resources necessary to safeguard her extended sea lanes. The U.S. declared a policy of unrestricted submarine warfare early in the Pacific war. At the end of 1942, Rear Admiral Charles Lockwood placed the emphasis on the destruction of Japan's merchant marine, and in 1944, focused on sinking tankers in an effort to stop the supply of oil to Japan. With more reliable torpedoes, younger and more aggressive captains, and more effective patrol plans, submarines started to extract a heavy toll on Japanese shipping. By August of 1945, only 12 percent of Japan's prewar merchant fleet remained afloat, despite an aggressive ship building program. Less than half of the surviving ships were operational due to a lack of fuel.[63] By the end of the war, Japan's steel production was less than 20 percent of its prewar levels and only 90,000 tons of oil remained in the country.[64] The effects of the lack of resources ensured that the Japanese military was even less prepared to parry the U.S. thrust through the central Pacific.

Although the Army Air Corps's B-29 Superfortress was not a naval weapon, it deserves discussion in the context of integration effects with those of naval forces. The initial B-29 raids against Japan were flown from China in an attempt to establish an early

sustained bombing of Japan in hopes of achieving results similar to those achieved in Europe. The contribution to the war hardly matched the effort expended in launching the B-29 raids from China, due primarily to logistics difficulties.[65] Once naval forces secured the Marianas, the focus for future B-29 missions against Japan shifted to the islands of Guam, Saipan and Tinian in October 1944.

The B-29 missions flying from the Marianas still faced enormous hurdles in the form of long flights that reduced bomb loads, increasing numbers of Japanese fighters encountered over Iwo Jima en route to Japan, and strong headwinds when flying at the high altitudes necessary to survive. Iwo Jima was assaulted and taken by the U.S. Fifth Fleet, and the 4th and 5th Marine Divisions, in February 1945, removing it as a threat to the B-29s.[66] Taking Iwo Jima also provided General Curtis LeMay, by then directing the bombing offensive, a place for damaged aircraft to land after raids on Japan, reducing the likelihood of ditching at sea and certain loss of the aircraft and possible loss of a skilled crew.[67]

Despite bases near Japan, improved crew proficiency and increasing numbers of the now proven aircraft, LeMay remained disappointed with the result of the high-level precision attack against military and industrial targets.[68] LeMay recognized the uncertain results of the offensive, balanced against the enormous costs of the effort, and made an unprecedented change in tactics for employment of the B-29s. He would send in the B-29s at low level, at night, stripped of guns and gunners and the required additional fuel tanks, so that he could maximize the weight of incendiary bombs that each plane could carry for the fire bombing raids he now proposed.[69] The Japanese industrial effort was particularly susceptible to this type of attack due to the large number of small shops

located in the urban areas, which in turn provided pre-fabricated materials to larger assembly plants.[70] The first incendiary raid on Tokyo in March 1945 destroyed 16 square miles of the city's urban center, killing over 100,000 people in a single evening. By mid-August, most of the major cities of Japan had been destroyed, and the XXI[st] Bomber Command started attacking smaller cities. In all, over 50 percent of Japan's total urban area was destroyed by these raids.[71] The submarine blockade of Japan may have removed the material necessary to fight the war, but the B-29 raids destroyed the will of the people.

Naval leaders intended to move fast and operate deep within Japan's Pacific empire. Long range naval forces took the war to Japan in the vast expanse of the Pacific, often leapfrogging over heavily defended island fortresses to take more strategically located islands, closer to the heart of Japan. This was made possible by the effective integration of fast carrier task forces, and their technological and tactical advancements, and specially equipped amphibious forces. U.S. submarines and bomber aircraft took the war to the Japanese home islands early, sapping the remaining strength from the Japanese war machine and population, while offensive naval operations systematically destroyed the Japanese military in the Pacific. Without the defensive barrier afforded by the initial conquest of islands in the Pacific, Japan was vulnerable to total isolation and invasion. Without the necessary raw materials and resolution of the population, Japan was too weak to resist.

3. Planning.

Prior to 1915, naval war planning was exercised exclusively at the Naval War College, and the War College still maintained control over the documents that guided naval planning during the inter-war period.[72] *The Estimate of the Situation*, and a companion document, *The Study of the Estimate of the Situation*, were the primary tools available to naval planners until 1936. The president of the War College, Rear Admiral Edward Kalbfus, combined these two booklets into a single publication entitled, *Sound Military Decisions*, which proved to be complex, lengthy, and difficult to understand.[73] *Sound Military Decisions* was, however, the definitive document on naval planning, and was used extensively by naval staffs in WW II.

Early in the war, Nimitz established a unique arrangement among his two principle sea going staffs. While one staff was at sea conducting operations, the other staff was ashore planning for execution of the following operation.[74] This ensured that the necessary planning function was accomplished, and since the planning was conducted at Pearl Harbor, sea going staffs were never in question as to the intent of Nimitz. Nimitz focused almost all of his energies on planning future operations in the Pacific, personally analyzing all proposed plans in detail, with open debate encouraged in their development.[75] Nimitz would always ask three questions about any proposal presented:

1. What are the consequences of failure?
2. Is it practicable in terms of materials and supplies?

3. Is it likely to succeed?[76]

Nimitz had a set of planning criteria that he kept under the glass top of his desk, and used in evaluating any plan under considerations:

Objective
Offensive
Surprise
Superiority of Force at Point of Contact
Simplicity
Security
Movement
Economy of Force
Co-operation.[77]

Nimitz had developed a sophisticated planning capability within his staff, and what became his extended staff, the off-duty operational fleet commander and his staff. His standard questions and planning criteria certainly indicated a refined understanding of the relationship between ends, ways and means. Pacific combat leaders had been schooled in a planning process prior to the war, and devised a method for using it successfully in the execution of a fast-paced campaign.

4. Logistics.

Dating from his studies at the Naval War College, Nimitz was acutely aware of the need for a large logistics tail to support the type of operations envisioned in the Pacific Theater. The competition for resources had already forced the allies to make a choice about which axis power to fight first, given a lack of resources to fight both, initially.

Availability of cargo ships proved to be the limiting factor in mounting offensive actions during the war. Only after the German U-boats were defeated was enough cargo capacity diverted to Nimitz to allow the drive across the central Pacific to proceed. However, in the vast expanses of the Pacific, conventional basing and the existing methods for supply simply could not provide the substantial quantity within the time constraints necessary for the anticipated campaign. The effort to keep over 200 ships at sea, thousands of miles from the fleet base at Pearl Harbor, for the three weeks required to execute Galvanic, the Navy's capture of the Gilberts, required a support operation on a scale never before attempted by any navy.[78] The answer to the Navy's logistics problem was found in the creation of Service Squadrons (SERVRONs) 4 and 8.

SERVRON 4 consisted of floating dry-docks, repair ships, tenders, barges, lighters and tugs capable of providing the necessary support for over 20,000 men, while SERVRON 8 was a group of over a dozen fleet oilers that could provide fuel oil and aviation gas on constant basis to the fighting ships.[79] These ships continued to move forward with the advancing carrier task forces and amphibious forces, providing a base infrastructure without the need to build a base. Because of the logistics support provided by the service squadrons, the fighting fleets were no longer constrained by the distance from the nearest base. This logistical concept enabled the fleets to push across the Pacific.

B. Impact of Operational Art

Admiral King's strategy to contest only the minimum number of islands, those islands most vital to the defense of Japan, proved to be the key to the allied victory in the

Pacific Theater. Long range naval forces attacked Japanese air and naval units across the breadth of the Pacific, systematically destroying Japan's offensive power. The effective integration of fast carrier task forces and amphibious forces allowed Naval forces to isolate and leapfrog over heavily defended island fortresses and take more strategically located islands. In early deep attacks, U.S. submarines and bomber aircraft took the war directly to Japan. The combination of these attacks, in depth and breadth, allowed the allies to quickly crack the defensive island barrier protecting Japan, and threaten the Japanese home islands.

Without question, the practice of operational art was evident in the planning and execution of naval operations the Pacific Theater during WW II. The recognition of the linkages between ends, ways and means by Nimitz, in the movement across the Central Pacific, ensured that that operations were only undertaken with adequate resources, and the operations undertaken clearly supported the allied wartime strategy. There was a constant two-way dialog between allied civilian and military leaders in the formulation of war aims, and how to best support their accomplishment. This dialog helped ensure that there was a Joint effort and a resulting synergistic effect between Army, Army Air Corps and naval operations in the Pacific Theater. The combined effects of these operations, simultaneous attacks in breadth as well as depth, destroyed the offensive military capability of the Japanese as well as their will to continue to fight.

IV. Operational Art in Contemporary Naval Operations

A. Cold War Development

1. Naval Strategy in the Cold War Era

Coinciding with the end of WW II, a void in the formulation and execution of U.S. national security policy was readily apparent. Although some thought was given to the shape of post-war Europe before war's end, the majority of intellectual energy, of both elected officials and senior military leaders, had been focused on winning the war at hand. At the end of the war, the cohesive force binding the allies together was removed, and not surprisingly, the goals of the individual countries rapidly diverged. The Soviet Union sought future security in the form of buffer states in Europe, while the U.S. sought to demobilize and disengage from Europe. Within the U.S., the rush to cut military spending in an effort to balance the budget left little time for civilian and uniformed military leadership to fashion a coherent national military strategy from which to devise decisions on force structure. There was, however, a surprisingly rapid recognition, by several in the administration and the military, that the Soviets represented a significant threat to post-war Europe, and perhaps even the U.S. The thought of our former ally becoming a threat was kept quiet initially in deference to the feelings of a U.S. population anticipating peace and prosperity at the end of the great struggle.

The Navy, expecting the value of sea power to be accepted somehow without question, was caught completely unprepared for the need to justify it's very existence at the end of the war. The same force balance that was necessary for the execution of the WW II naval mission, made the Navy and Marine Corps very difficult to defend fiscally at the end of the war. The naval service was almost split up because of the seemingly irresistible argument to divide the military along functional lines, vice mission areas, and therefore, reduce overlap.

The proponents of air power, struggling to create an independent Air Force, advertised that air power alone now could win wars, without the need for a large costly Navy or Army. The Air Force argued that the advent of atomic weapons, and the long range bombers to deliver them, had made conventional war obsolete.[80] Implicit in this argument was that future wars would be short, decided quickly by the use of atomic weapons, and without the need for a "long march back" as the Navy had done in the Pacific, and the Army had done in Europe.[81] Few questioned the other more significant underlying assumption, namely that the use of nuclear would be authorized in the event of war, regardless of the circumstances.

The threat posed to Europe by the Soviets finally became obvious, and the need to confront it, unavoidable. By then, much of Eastern Europe was firmly under the control of the Soviet Union, which was not yet willing to contest those portions of Europe under U.S., British and French control. Subordination of countries on the periphery of Europe, namely along the Mediterranean Sea, was still disputed. Initially unwilling to make the long term commitments necessitated by sending land forces or combat aircraft, the U.S. turned to sending Navy ships to demonstrate U.S. resolve in the region.[82] These

demonstrations resulted in the first permanent deployment of Navy ships to European waters, and led directly to the modern Navy missions of forward presence and crisis response.

In articulating the role of naval forces in a conflict with the Soviet Union over the domination of Europe, Navy leaders postured that command of the sea was not an end in itself, but instead opened the way for follow-on operations ashore.[83] The Navy challenged the Air Force's central assertion that future war, especially a war with the Soviet Union, would be quick, and could be won on the cheap. The Navy suggested that a war with the Soviets would likely be a longer affair, and success would only come after a series of campaigns, hinging on the Navy's control of the sea.[84] The Navy believed that the primary sea control threat would come from Soviet submarines, and the Navy would be required to conduct offensive Anti-Submarine Warfare (ASW)—destroying Soviet submarines in their bases before they could put to sea and contest the sea-lanes.[85] The primary weapon to be used under the offensive ASW scheme was the aircraft carrier, effectively linking power projection ashore with sea control.[86] However, U.S. leaders were looking for new ideas and less expensive solution to a possible war with the Soviets, and the Air Force, with its long range bombers and nuclear weapons, appeared to have all the answers.

In 1949, in a transparent bid to save naval aviation, the Navy leadership attempted publicly to market the aircraft carrier as a platform to launch nuclear strikes against the Soviet Union. They proposed building a carrier capable of launching aircraft that could carry nuclear weapons, each weapon then weighing over five tons.[87] This attempt was unsuccessful, resulting in the cancellation of the proposed super carrier, *UNITED STATES*, and dismissal of the Chief of Naval Operations. The Korean War experience

ultimately saved carrier aviation, and allowed the Navy to win approval for the *FORRESTAL* class carrier, the successor to the canceled *UNITED STATES*. Carrier aviation flourished in the 1950s as a direct result of the Korean War experience. The task of nuclear weapons delivery was added to the carrier's mission, as the non-carrier portion of the fleet continued to age rapidly and decrease in total size.[88]

With the advent of a strong Soviet submarine fleet and Soviet deployment of anti-ship cruise missiles in the late 1950s, and early 1960s, military leaders again questioned the viability of aircraft carriers. In particular, the ability of carriers to operate close enough to the Soviet coast to deliver nuclear attacks was disputed. The burden of nuclear deterrence was shifting gradually to the Navy's Polaris submarines and the Air Force's Inter-Continental Ballistic Missiles, reducing the need for nuclear strikes launched from carriers at sea.[89] As a consequence, carrier aviation lost the mission of nuclear deterrence, but still held onto the mission of tactical nuclear strike.

With the perceived need to confront the Soviet Union at levels other than nuclear war, as part of the evolving policy of containment, national leaders began to think more in terms of flexible response options. Navy leaders quickly grasped the idea of using the carriers for limited wars. While long range nuclear bombers and land and sea launched ballistic missiles would be of little value in a limited war, strike carriers and amphibious forces were already proven weapons for crisis intervention.[90] The Navy was quick to recast its attack carrier doctrine in terms of limited war, crisis management and flexible response, fitting neatly under the emerging national strategy. However, the Navy failed to carry forward the central concept of sea control as a prerequisite for power projection.

A Soviet naval exercise in 1970 showcased a modernized Soviet fleet of over 200 surface ships and submarines, operating in conjunction with Soviet naval air, that was now capable of executing a sea-denial mission against the U.S. Navy.[91] While the Soviets never intended to gain control of the sea in other than coastal operating areas, they clearly understood the value of denying control to the U.S. Navy during a crisis in Europe or the eastern Mediterranean.[92] The Soviet ships and aircraft were largely new, carrying long range anti-ship cruise missiles, while the vast majority of U.S. ships were WW II vintage, lacking sufficient air defense to defeat these Soviet threats. Navy leaders now felt that in future crises, just to ensure survivability, U.S. aircraft carriers would be forced to withdraw when confronted by Soviet ships and naval air. The balance between power projection ashore and sea control had been lost. The lesson was simple, to project power ashore and influence events on land, you must have a survivable force that can execute sea control.

The inability to operate in the face of Soviet naval strength was recognized, and Admiral Elmo Zumwalt, then Chief of Naval Operations, laid out plans to rebuild the Navy's sea control function. However, President Nixon's foreign policy relied on nuclear deterrence, disarmament and détente, and Zumwalt did not spell out the contributions that sea-power might make in regards to dealing with the Soviets.[93] In fairness, while Zumwalt's plan lacked a direct connection to national strategy, and was criticized as just a list of tactical objectives, it is doubtful if any naval strategy could have been linked to the ongoing diplomatic efforts. Mahan had realized that the Navy required the support of political leaders, and a public that recognized the benefits of sea power.[94] Continually

placing means (force structure) ahead of ends (political purpose) was clearly working against the Navy, and had been since the end of WW II.[95]

Recognizing the need to link naval strategy to the national security strategy, Admiral Thomas Hayward and his successor as Chief of Naval Operations, Admiral James Watkins, attempted to tie these strategies together in a comprehensive and easily understood doctrine. The synthesis of that effort was *The Maritime Strategy*, published formally in 1986. It opened with the assumption that the Soviets no longer believed in the inevitability of nuclear war; a war between the U.S. and the Soviet Union could no longer be assumed to be a short conflict, leading to mutual destruction.[96] The Navy also asserted that the survivability of the Soviet strategic reserve, contained in their ballistic missile submarines, could effectively deter any U.S. nuclear response in the event of a land war in Europe.[97] In a high risk confrontation, the key to successful maritime operations against the Soviets was again, offensive ASW.

The Maritime Strategy stated that in the event of Soviet aggression in Europe, allied naval forces would immediately go on the offensive against Soviet ballistic missile submarines and against Soviet naval forces in the Pacific, Indian Ocean and Mediterranean. The purpose of the attack on the entire periphery of Eurasia was to dilute Soviet focus and resources available to the central front. The allied attack on the ballistic missile submarines would require the Soviets to devote almost all naval resources to the defense of the ballistic missile submarine bastions. As a result, Soviet ships and aircraft would not be able to interfere with the forward movement of reinforcements to Europe. Additionally, faced with destruction of their second strike nuclear capability, the Soviets would be forced to accept war termination on our terms.

The Maritime Strategy also offered a sophisticated discussion of the spectrum of conflict that neatly tied together the naval missions of peacetime forward presence, crisis response and general warfighting. *The Maritime Strategy* operated on the premise that determination to win, and not just contain a general war within Europe, was the best deterrent to war.[98] *The Maritime Strategy* was developed in the context the existing *National Security Strategy*, and presented as a component of the *National Military Strategy*, not a replacement for it. Using *The Maritime Strategy* as justification, the Navy was able to rebuild the sea control function of the fleet. The Navy designed and built the AEGIS class cruisers and destroyers, launched a seemingly endless number of Los Angles class attack submarines, and modernized the amphibious assault forces. New destroyer tenders and underway replenishment ships were built to sustain the force at sea. The Navy had finally offered a comprehensive doctrine of naval operations that plainly linked ends, ways and means.

2. Impact of Naval Strategy on Operational Art

The Navy at the end of the WW II was fundamentally different than the Navy that existed prior to the start of the war. This transformation was not merely a change in ship types or numbers, but reflected a philosophical change from the pre-war fleet. The physical composition (force structure) at the end of WW II and again at the end of the Cold War, reflected a balanced force, designed around the tenants of the operational artistry required to exercise war from the sea in the Pacific Theater of WW II. At the end of WW II, and again at the end of the Cold War, the Navy was composed of a vast array

of logistical support units, specialized amphibious assault ships, long range submarines and highly survivable battlegroups, centered around attack aircraft carriers.

The one aspect of operational art lost at the end of WW II, or shortly thereafter, and not yet recovered, is the ability to plan. This appears to have resulted for two primary reasons that must be understood to be corrected. First, the general lack of education in the art of planning, or exposure of Navy officers to the application of the process, led to a lack of familiarity with the planning process. Second, planning, in the sense of developing detailed campaign plans, was simply not essential to mission accomplishment during much of the Cold War.

The deliberate planning process is not used in the planning and execution of fleet operations. Naval officers have been exposed to the deliberate planning process only during formal war college education and/or as designated planners on Joint staffs. After WW II, and especially during the Reagan defense buildup, fewer and fewer Navy officers attended a war college, and then often only after command at sea.[99] The Navy does not have a Command and General Staff School as does the Army, Air Force, and Marine Corps, to teach basic staff planning functions to mid-grade officers. In essence, any education received by Navy officers was acquired too late to be of benefit to the majority of officers who needed it, or the Navy as a whole. Until only recently, the Navy has been unwilling to provide quality officers to Joint staffs, or provide them in numbers comparable to those of the Army or Air Force. Even then, planning billets predominately went to Army and Air Force Officers, both trained and practiced in deliberate planning.

The Navy's forward presence role does not lend itself easily to the deliberate planning process. These operations are generally open ended, making it virtually

impossible to define a meaningful endstate from which to develop a commander's intent. Crisis response offers an opportunity for crisis action planning but Navy on-scene commanders typically have not used a formal planning procedure, instead relying on standing operating procedures already in place for execution of higher level direction. Based on the perceived complexity of modern naval operations, and to ensure a predictable response to a given situation, the Navy has developed a set of standard operating procedures. These standard operating procedures are drafted in NATO Maritime Tactical Message Format (MTF) and referred to as Operational Tasks (OPTASKs) and Operational General Matters (OPGENs). OPTASKs and OPGENs are a product of the Navy's Composite Warfare Commander Concept, developed to allow distributed command and control along functional lines, in the face of the Soviet threat. These standing OPTASKs (divided into functional areas such as Anti-Air Warfare, Ant-Submarine Warfare, Logistics, etc.) perform as an operational doctrine, yet contain much of the detailed information that one would find in the annexes of a standard format OPLAN.

The use of standardized OPTASKs has allowed the Navy to operate in a "plug and play" manner with respect to force integration. They also reduce the reaction time required for crisis response since they are not drafted for each operation, and can be modified to some degree to conform to local situations. While OPTASKs provide a predicable response, often much preferred to a creative response, they cannot address every situation. A problem arises when something other than a standard Navy solution is required for mission execution. Because the use of OPTASKs have largely freed

operational Navy units and staffs from the requirement for operational planning, the planning function is poorly executed when required.

Navy officers have often been accused of "on the back of an envelope planning," and usually with good reason. Navy officers, unlike our Marine counterparts, are neither trained in formal planning, nor expected to perform it. The Navy culture promotes officers based on their ability to command, not staff a problem. As a result, the Navy is unprepared to interpret or execute Joint OPLANs because their lack of familiarity with the overall process.

Finally, the required focus on threat-based planning overshadowed any mission-based planning that might have initially occurred in support of *The Maritime Strategy*. [100] Soviet naval doctrine and advanced weapon systems presented a formidable challenge to the U.S. Navy in the late 1970s and during the 1980s. The Soviet development of long range cruise missiles, to be delivered from surface, sub-surface and long range land-based naval aircraft in coordinated strikes, left the U.S. Navy with an enormous fleet defense problem. The focus on developing the systems and tactics to defeat the Soviet threat to high value units, namely aircraft carriers, took center stage, consuming much of the planning energies of the U.S. Navy.

3. Analysis of Cold War Strategy and Operational Art

The primary value of *The Maritime Strategy* turned out to be the internal clarity of purpose and inherent discipline it forced upon the Navy. In the process, the Navy was able to overcome force structure and procedural shortcomings to achieve the capabilities

necessary to execute an overarching doctrine. By the end of the 1980s, the Navy had a modern, balanced fleet, capable of exercising both sea control and power projection anywhere in the world. The command and control capabilities of the fleet were second to none, ensuring the ability to accomplish the mission and survive in the most severe multi-threat environment.

The piece missing from the puzzle was the ability to plan. Also, a lack of general operating doctrine above the tactical level would have severely limited the effectiveness of any planning, had the planning process even been in place. The professional debate that started with the publication of *The Maritime Strategy* might well have reinvigorated over time the doctrine development and planning processes necessary for execution of the strategy.

B. Post-Cold War Operations

1. Naval Strategy Development in the Post-Cold War Environment

The end of the Cold War caused a significant shift in the articulated strategy of U.S. naval forces, mirroring the national security strategy shift from preparing to respond to a single global threat to addressing multiple lesser regional challenges. In 1992, the Chief of Naval Operations published *...From the Sea: Preparing the Naval Service for the 21st Century*, marking a new direction for the Navy.[101] Moving away from the open-ocean warfighting and sea control outlined in *The Maritime Strategy*, it was an acknowledgment of the ongoing shift in U.S. defense policy to a regional focus. It again

echoed the recognition that control of the sea can be exploited to allow establishment of control on land.[102] ...*From the Sea* explicitly defines littoral operations, crisis intervention and support of land forces as the primary mission of the U.S. naval forces.[103] In 1994, the Secretary of the Navy published a follow-on white paper entitled *Forward ...From the Sea*, which maintained the commitment to the ideas expressed in ...*From the Sea*. *Forward...From the Sea* refined the concepts, discussed how the Navy would meet the challenges of forward presence, crisis response, and regional contingencies, and added an economic dimension to U.S. naval strategy.

While naval forces still retain the traditional missions of strategic deterrence, sea superiority, and protection of maritime trade, the focus of naval preparations has shifted to regional support of U.S. interests, with an emphasis on operations in the littorals.[104] Naval expeditionary forces, capable of maintaining forward presence and projecting power ashore when required, are the key to naval operations in the post-Cold War environment. Balanced, self-sustaining and mobile naval expeditionary forces can offer the national command authority a broad range of response options. These options range from day-to-day operations that include forward presence, humanitarian relief and peacekeeping operations to fighting in major regional conflicts.[105]

Naval operations in a major regional conflict would consist of establishing control of the sea only to the degree required to support U.S. national security objectives, and conducting war from the sea to achieve land-based objectives. Conducting war from the sea is designed to extend naval influence ashore and take the battle to the enemy through power projection.[106] Naval power projection alone may be sufficient to achieve national objectives, or may enable the introduction of required land and air forces into theater.[107]

2. Naval Doctrine Development and Operational Art

...*From the Sea*, much like *The Maritime Strategy*, was written to express the naval component of the *National Military Strategy*. In an effort to develop and strengthen the concepts expressed in ...*From the Sea*, the Chief of Naval Operations established the Naval Doctrine Command.[108] Naval doctrine is written to bridge the gap between the broader naval component strategy found in ...*From the Sea*, and the tactics, techniques and procedures found in Naval Warfare Publications (NWPs).[109] Naval Doctrine Publication (NDP)-1, *Naval Warfare*, was written as the Navy's capstone doctrine publication to articulate an overarching warfighting philosophy that could guide the development of follow-on naval doctrine. Aside from NDP-1, Naval Doctrine Command has published basic doctrine in the areas of planning, logistics, intelligence, and command and control. Other doctrine publications are currently in the draft stage, including the soon to be released NDP-3, *Naval Operations*.

NDP-5, *Naval Planning*, was published in 1996. It explains the reasons why the Navy plans, and provides a discussion of the deliberate planning process. Very much an overview, it refers readers to NWP-5-01, *Naval Operational Planning*, as the definitive guidance on planning. Together, these documents lay out naval participation in the Joint planning process, and the planning process by which the naval component commander would develop subordinate OPLANs for execution by naval forces. NDP-3 (draft) articulates the fundamental doctrine for the conduct of naval operations.

Significantly, none of the Navy doctrine or warfare fighting publications mentioned above include any discussion of operational art. One could reasonably question the intention of naval forces to use operational art in the conduct of future operations. Is operational art not applicable to modern day naval operations, or is it more a matter of doctrinal terminology?

Since the decision to draft doctrine again, the naval service has struggled with the question of doctrine's place in naval war fighting. Joint doctrine is described as authoritative in nature, while the purpose for naval doctrine is described as less a set of explicit rule, but the basis for a common understanding that guides naval warfare.[110] Naval doctrine lays out the essential employment principles for the use of naval forces. NDP-1 goes on to describe doctrine as the underlying philosophy that guides the use of naval tactical weapons systems and forms the link between the naval component of the national strategy and naval tactics, techniques and procedures.[111] This suggests that naval doctrine has a significant role to play at the operational level of war, in the planning and execution of theater campaigns.

Operational art is the process by which strategy is translated into operational objectives, and finally, tactical action. Without a unifying set of rules to guide this translation process, the results of such a process would be unpredictable and inconsistent, and of little value. The fundamental elements of operational art, listed in Joint doctrine and discussed in Section II of this paper, are intended to provide basic unifying rules for the operational art process at the Joint force level. Since these fundamental elements apply to all services, they are necessarily general in nature and provide little more that elementary planning principles. Underlying rules, tailored to the distinct capabilities and

limitations of particular service components, must also be available to operational planners if the operational art process is to generate a truly useful product.

This is the role of naval doctrine in the operational art process. Naval doctrine performs a comparable function to that intended by the fundamental elements of operational art. Just as the fundamental elements provide a unifying set of rules for the use of Joint forces, naval doctrine provides the unifying principles for the use of naval forces in the operational art process. Whereas the fundamental elements of operational art can afford to be general in nature, naval doctrine must precisely spell out how the Navy and Marine Corps function at the operational level of war. This level of detail is absolutely necessary to the Joint planner. Only when the Joint planner is armed with a detailed understanding of the uses of naval forces can the Joint planner determine how best to use naval forces to accomplish strategic objectives in a theater of operations.

If this is a correct interpretation of the purpose of naval doctrine, then naval doctrine should contain the criteria for development of naval operations, much as Joint doctrine contains the fundamental elements of operational art necessary for the development of a Joint campaign or operation. There is such a unifying set of criteria contained in naval doctrine, termed key concepts, for the development of naval operations. Described as supporting the preferred method of naval warfare, maneuver warfare, these key concepts are:

- Commander's Intent
- Tempo
- Focus of Effort and Main Effort
- Center of Gravity and Critical Vulnerabilities
- Application of the Principles of War from Joint doctrine.[112]

1. Objective
2. Offensive
3. Mass
4. Economy of Force
5. Maneuver
6. Unity of Command
7. Security
8. Surprise
9. Simplicity[113]

In fact, when the nine principles of war are included with the other key concepts, the list is similar in scope to the fundamental elements of operational art listed in Joint doctrine, but focused specifically on the development of naval operations. This difference in criteria for developing Joint operations and naval operations should be expected, much as the criteria for developing land operations or an air campaign would be different from those used to develop a naval campaign. The role of naval doctrine as a set of employment principles, in the context of the operational art process, can also be examined for using the evaluation criteria developed in Section II of this paper.

a. Subordination to National Strategy. *...from the Sea* was developed and published in response to the change in focus of the *National Security Strategy*. The naval doctrine that has been developed since clearly reflects the required shift from sea control functions to an emphasis on influencing events ashore. Equally relevant to the question of subordination, given the lack of ongoing or looming hostilities, is the Navy's commitment to Joint Vision 2010, recently published by the Chairman of the Joint Chiefs of Staff. Joint Vision 2010 represents the understanding of how U.S. forces will conduct operations in future conflicts. The conceptual basis for tomorrow's warfighting is improved command,

control and intelligence, based on information superiority.[114] The emerging operational concepts resulting from improved command, control and intelligence, and other applications of technology are:

1. Dominant Maneuver
2. Precision Engagement
3. Focused Logistics
4. Full-Dimensional Protection.[115]

In the most recent revision of *Forward...From the Sea* (March 1997), the Secretary of the Navy has committed fully to the concepts contained in Joint Vision 2010. He has committed to developing weapon systems and naval doctrine designed to secure national level objectives using the operational concepts in Joint Vision 2010. Examples of this include the pledge to deliver integrated Joint fires throughout the battlespace, with the degree of precision dictated by the operation, and to improve naval capabilities in the area of Joint force protection.[116] The Secretary has also committed to fully develop the Marine Corps concept of *Operational Maneuver from the Sea* (OMFTS), with enhanced command and control and logistics support for Marines ashore.[117] The naval service intends to modernize and improve the Navy-Marine Corps team concept, ensuring the future ability to conduct high-tempo littoral operations, reminiscent of the amphibious assaults that proved so successful in the Pacific Campaign of WW II.

b. Coherence of Deep Distributed Operations. Maneuver warfare, as discussed in naval doctrine, seeks to exploit the advantages of naval forces to concentrate and project combat power at a chosen place and time.[118] Doctrinally, maneuver warfare from the sea

is divided into two complimentary operational functions, battlespace dominance and power projection.[119]

Using battlespace dominance, naval forces seek to control a multidimensional battlespace that encompasses air, surface, subsurface, land, space and time. With control of the required battlespace comes the freedom of action necessary to ensure accomplishment of a wide variety of naval missions, from power projection to routine presence. Battlespace dominance has its roots in the Cold War concept of sea control. The multi-threat environment posed by Soviet anti-ship cruise missiles requiring an almost mechanical defensive action due to their high speed and very low or very high flight profiles. However, in operations in the littorals, the area that must be controlled now extends over land, and is more complex as a consequence. Much of the increased difficulty in littoral warfare simply results from the ship sensor discontinuity presented at the sea-land interface. While this complexity is new since the end of the Cold War, it is not appreciable different in nature from the challenges faced by naval forces in the Pacific Theater of WW II.

The battlespace to be controlled will vary in size, moving with the naval and/or joint force. It's size is a function of the dimensions (breadth and depth) of the region that naval forces must control in order to achieve the desired objective. Battlespace dominance, again like the concept of sea control, is required for execution of the power projection mission.

Power projections extends naval influence inland to the degree necessary for mission accomplishment, functioning more in depth than breadth, often acting outside of controlled battlespace. The naval power projection mission directly supports the land

battle, and includes strike operations and amphibious warfare. Little changed from naval operations in WW II and those envisioned during the Cold War, battlefield dominance and power projection functions will likely occur in sequence. Ultimately, battlefield dominance and power projection require the close coordination afforded by centralized planning, but the operational flexibility allowed by decentralized execution.

c. Planning. In an effort to spell out the unique planning requirements for naval forces, NDP-5, *Naval Planning*, has been released recently, and a new naval warfare publication detailing the planning process is in draft. The primary focus of both documents is on the development of a commanders intent that will allow naval forces to fight in a decentralized manner, consistent with the Navy's Composite Warfare Commanders concept. However, the Navy's key operational concepts are not yet specified in the detail required by naval and Joint planners. This is not surprising given the Navy's recent commitment to doctrine development. The Navy must continue to develop and articulate specifics operational doctrine that ensures the unique capabilities of naval forces are understood and used in Joint operations.

d. Logistics. Naval forces have lost some of the flexibility evident in the balanced force that existed at the ends of WW II and the Cold War, and this is most evident in the area of logistics. Cuts in force structure, resulting from the end of the Cold War, have hit underway sustainment forces especially hard because of the desire to retain the maximum combat power in the face of large budget cuts. In an extended emergency, mothballed support ships would have to be reactivated and cargo ships might have to be contracted,

but these support services can be reconstituted relatively quickly. The prevailing feeling is that an increased tooth-to-tail ratio is superior in terms of long term combat readiness, given the existing threat. Most importantly, given the assigned missions for naval forces as laid out in the *National Security Strategy* and the anticipated adversaries, even the reduced logistical support now available will likely be adequate for the foreseeable future. The bottom line is that the sustainment forces available to support the Navy and Marine Corps are entirely consistent with the needs of naval doctrine and the *National Security Strategy*. In fact, given the shortage of strategic airlift to support the rapid deployment of Army land forces and the Air Force, naval sustainment forces are remarkably robust.

3. Summary of Post-Cold War Developments.

Naval forces have developed and articulated a naval strategy reflecting the realities of the end of the Cold War, and entirely consistent with the stated *National Security Strategy*. The rebirth of naval doctrine now reminds the Navy and Marine Corps of the power of doctrine in the planning of operations and shaping of the force. An increased emphasis on developing more specific doctrine, and refining the planning function for naval forces, can only serve to increase the relevancy of naval force in future Joint operations.

V. Conclusions

1. Operational art is a tool, a translation process that is designed to link ends, ways and means in the application of military force. An integral part of the planning process, operational art may be defined in a general manner, but must, at some level, be specifically focused on a particular approach to warfare for the translation process to be useful to planners. From Joint Publication 3-0, *Doctrine for Joint Operations*, operational art is defined as:

> The employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commanders strategy into operational design, and, ultimately, tactical action, by integrating the key activities of all levels of war.[120]

Joint doctrine does not spell out a preferred method of warfare to use in the application of operational art, but instead leaves that to the individual services. Joint doctrine does lay out some basic planning principles that are referred to as fundamental elements of operational art. These are:

Synergy
Simultaneity and Depth
Anticipation
Balance
Leverage
Timing and Tempo
Operational Reach and Approach
Forces and Function
Arranging Operations.
Centers of Gravity
Direct Versus Indirect
Decisive Points
Culmination
Termination.[121]

In analyzing the application of operational art in this paper, it was necessary to look at the thought processes involved in its development and acceptance in the Soviet Army in the 1920s

and in the U.S. Army in the aftermath of the Vietnam War. Based on the historical development of operational art, and the Joint doctrine definition, the following criteria were used as a frame of reference for studying operational art in naval operations.

a. Subordination to National Strategy. First, the planned military operations must be clearly subordinate to the national strategy. Second, intended military operations must be adequate to accomplish the objectives of the national strategy.

b. Coherence of Deep Distributed Operations. The planned operations are distributed in space and time, but are unified by a common aim, the accomplishment of the strategic objective.[122] The operations will likely be extended in depth as well as breadth so as to profit from the operational reach of all available weapon systems. These weapon systems will be employed in a manner to achieve synergy of their effects. Battles may be fought to maintain or deny freedom of action as well as for the purpose of destruction of an enemy force or capability. The decision to accept or deny battle will be made based on the relationship between the battle and achieving the ultimate strategic goal.

c. Planning. The staff planning functions necessary to execute a complex operational plan must be identified in advance and in place in the form of a recognized and workable planning process or methodology. Beyond the mechanical functions of the plan, the commanders intent must be clear to all those who execute the plan if the desired results of the operation are to be achieved.

d. Logistics. The importance of logistics must be understood. The level of risk entailed as a result of the lack of resources must be part of the planning considerations.

2. The practice of operational art was evident in the planning and execution of naval operations in the Pacific Theater during WWII. The operations in the Pacific theater were subordinate to a clear and unambiguous allied strategy. Allied civilian and military leaders engaged in a constant dialog throughout the war in the formulation of war aims, and how to best support their accomplishment. This dialog proved essential to ensure a synergistic effect between Army, Army Air Corps and naval operations in the Pacific Theater. Admiral King's Pacific strategy to contest only the minimum number of islands that would allow allied forces to directly threaten Japan proved crucial to the conduct of the war, and the ultimate victory in the Pacific Theater. To Admiral King and Admiral Nimitz, offensive naval power, specifically carrier aviation, was the center of gravity within the Japanese military. King realized that Japan would be forced to commit their remaining carrier aviation to protect critical islands in Japan's defensive island barrier. The assault on the Gilbert, the Marshall and the Mariana Islands resulted in the destruction of Japanese carrier aviation as Japan tried to defend these remote island fortresses. Control of the Marianas cut the supply lines to the powerful Japanese naval base at Truk, effectively ending Japanese influence in the Pacific. Ultimately, control of the Marianas allowed a blockade of Japan that would have forced Japan's surrender.

Nimitz and King clearly linked ends, ways and means to ensure that operations were only undertaken with adequate resources, and the operations undertaken supported the allied wartime strategy. Nimitz understood the need for immense logistical support and for detailed planning to

support the complex operations he intended in the Pacific Theater. His approach to planning ensured the production of quality products, and secured input from those who would have to execute the plans. Realizing that conventional basing and supply methods would not suit the character of the Pacific campaign, naval leaders instituted a mobile logistics concept where fleets were no longer constrained by the distance from the nearest base.

Joint service operations combined to provide simultaneous attacks in breadth, as well as depth, resulting in the systematic and sequential destruction of Japanese offensive military capability and eliminating Japan's ability to maintain the defensive island barrier. Long range naval forces took the war to Japan through the vast expanse of the Pacific, often leapfrogging over heavily defended island fortresses to take more strategically located islands. This was made possible by the effective integration of fast carrier task forces, and their technological and tactical advancements, and specially equipped amphibious forces. U.S. submarines and bomber aircraft took the war to the Japanese home islands early, destroying the production capability of the Japanese war machine and the will of the population to resist the U.S. advance.

3. The operational experiences of WW II fundamentally changed the character of U.S. naval forces. At the end of WW II, the Navy and Marine Corps reflected a balanced force, designed around the lessons learned in executing war from the sea in the Pacific Theater of WW II. In short, the tenants of operational art had been integrated into the force structure of the Navy-Marine Corps team. The naval force that emerged from WW II was much more mobile, self sufficient and survivable, and with far greater striking power. Naval forces at the end of the war were composed of logistical support units, specialized amphibious assault ships, long range

submarines and highly survivable battlegroups, centered around attack aircraft carriers. The composition of naval forces today still reflects the lessons of the Pacific Campaign.

The inability to link naval strategy to the national security strategy after WW II, even in the face of an obvious Soviet threat, proved extremely detrimental to maintaining the Navy's capability to ensure sea control. Caught up in the panacea of nuclear weapons and force structure battles with the other services, the Navy forgot to remind an inherently maritime nation and its leaders of the value of sea power. The Navy finally offered a comprehensive concept of naval operations with the 1986 publication of *The Maritime Strategy*. With *The Maritime Strategy*, the naval service was able to focus on and rebuild the required core capabilities necessary to execute a mission clearly linked to the national strategy.

4. Naval operational art, as expressed through the contents of Naval doctrine, may be a vehicle to reinvigorate the deliberate planning process within the Navy. Naval doctrine can then guide Joint and naval commanders in the optimum use of naval forces in future Joint operations. Unified naval strategy and operational art may also focus the Navy in force structure and tactical development in order to achieve the capabilities necessary to execute an overarching doctrine. Finally, an increased emphasis on developing more specific doctrine, and refining the planning function for naval forces, can only serve to increase the relevancy of naval force in future Joint operations.

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