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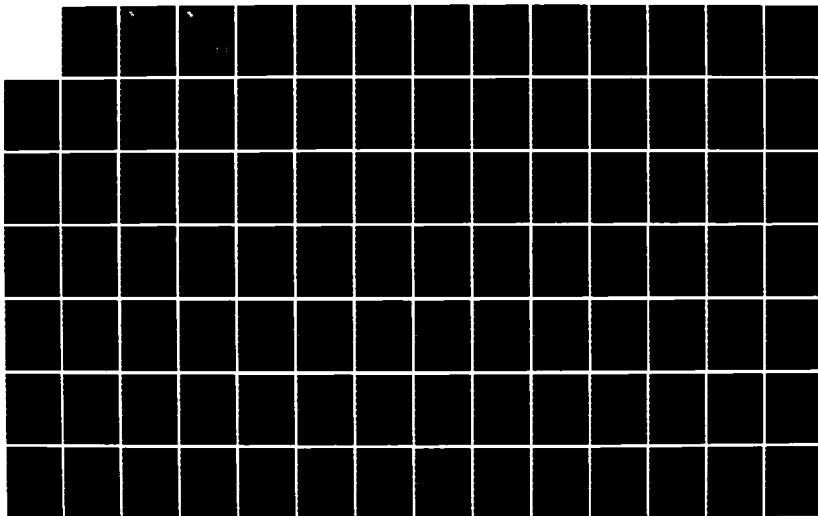
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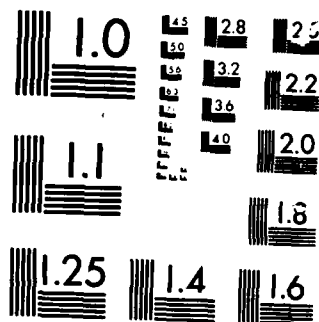
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(FINAL)
MARITIME POWER:
SOME OBSERVATIONS ON STRATEGY,
TACTICS AND TECHNOLOGY

CONTRACT NO. N0014-84-C-0745
COMPETITIVELY AWARDED
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MARITIME POWER: SOME OBSERVATIONS ON STRATEGY,
TACTICS AND TECHNOLOGY

Defining Maritime Power

Maritime power is composed of the variety of constituent elements possessed by a country which relate in some way to its uses of the sea. These elements include its coastal geography (its ports, harbors, inlets and navigable rivers that open onto the ocean), its offshore resource facilities (oil well drilling rigs, seabed mining operations), its overseas naval bases, its fishing fleets, its merchant shipping, its coast guard (if separate) and its navy. Captain (later Rear Admiral) Alfred Thayer Mahan, USN, who first coined the term "sea power" some ninety-five years ago, enumerated the principal conditions affecting sea power as consisting of geographical position, physical conformation, extent of territory, number of population, character of the people and character of the government.¹ The elements of sea power, according to Mahan, were the country's merchant shipping, its bases and its navy (the fighting instrument). While events in the intervening years have done much to modify or even overturn the thrust of Mahan's more specific

1. Captain A.T. Mahan, D.C.L., L.L.D., United States Navy, The Influence of Sea Power Upon History 1660-1783 17th Edition (Boston: Little, Brown, and Company, 1903 [first published 1890], pp. 28-29. For Mahan's discussion of these points, see Ibid., pp. 29-89.

insights,² these initial thoughts about the composition of sea power still provide the underpinning for our understanding of maritime power today.

It is because the constituents of maritime power vary in strength among states that the reliance placed by individual countries upon maritime power as an instrument of state influence in the international arena differs so markedly. As one British naval officer expressed it:

For the island nations, sea power is all important, as is demonstrated by the fact that their war fleets head the world's navies. For whole or part land powers, sea power must be less important, according to the degree of dependence on maritime trade, and on the closeness and strength of the possible land rivals.³

Unfortunate as it may be, in the world to which we are accustomed the ultimate arbiter of maritime power remains a country's navy. A country may have a sizeable network of ports and a considerable commercial shipping, but if it lacks the wherewithal to assert its rights to unrestricted passage on the open seas in the face of naval opposition its vaunted

2. For an interesting discussion of how events in the Twentieth Century rapidly dated many of Mahan's conceptions, see Paul Kennedy's "Mahan versus Mackinder: Two Interpretations of British Sea Power," in his book Strategy and Diplomacy 1870-1945: Eight Studies (London: George Allen & Unwin, 1983). This essay also is found in somewhat different form as a chapter in his book The Rise and Fall of British Naval Mastery (London: Allen Lane, 1976).
3. T 124, Sea Power (London: Jonathan Cape, 1940), pp. 100-101. The author of this book was reportedly Captain Alfred Trowbridge, RN (Intelligence), although it was published in the United States under the authorship of Captain Russell Grenfell, RN. -- handwritten note in this author's copy of the book.

maritime trade is soon checked. It is this definite linkage between a country's maritime commerce and its military might (in the wider sense of the term) that has been all too easily forgotten in a postwar world only infrequently reminded of the dangers of large-scale piracy and commerce raiding. As Mahan remarked in an early, somewhat unguarded comment: "The necessity of a navy, in the restricted sense of the word, springs, therefore, from the existence of a peaceful shipping, and disappears with it, except in the case of a nation which has aggressive tendencies, and keeps up a navy merely as a branch of the military establishment."⁴ One does not have to agree with Captain Mahan that sea power constitutes the "central link" in a state's accumulation of wealth to acknowledge that the successful utilization of maritime power is vital to the national wellbeing of many states, including most of the world's major trading countries. Where a major trading power, such as Japan, lacks the naval capabilities to enforce its shipping rights in time of threat or war, it is forced to depend upon the sufferance of allies. As summed up by that first great historian of sea power in relation to Britain's victory in the Seven Year's War (1756-1763): "The one nation that gained in this war was that which used the sea in peace to earn its wealth, and ruled it in war by the extent of its navy, by the number of its subjects who lived on the

4. Mahan, Influence of Sea Power Upon History, p. 26.

sea or by the sea, and by its numerous bases of operations scattered over the globe."⁵

The Missions of the U.S. Navy

The missions of a navy can be limited (in scope) or unlimited, defensive or offensive, and intermittent or continuous (in duration), depending upon a country's relative maritime strength, global commitments and national purposes. There are a number of ways of categorizing naval missions. Michael McGuire discussed the "use of the sea" in terms of "the conveyance of goods and people" and "the projection of military force against targets ashore" (under which category he placed both the traditional application of force and nuclear deterrence). McGuire further subdivided the above categories by noting that the deployment of naval forces could be employed either to prevent or to secure the above categories of use.⁶ Ken Booth, on the other hand, set forth an inventory of naval tasks grouped according to whether they served policing, diplomatic or military roles.⁷ Geoffrey Till presented a chart showing "purposive or preventive uses of the sea" as consisting of coastal tasks,

5. Ibid., pp. 328-329.

6. Michael McGuire, "Changing Naval Operations and Military Intervention,": Naval War College Review, Vol. 29 (Spring 1977), p. 6.

7. Ken Booth, "Roles, Objectives and Tasks: An Inventory of the Functions of Navies," Naval War College Review, Vol. 30 (Summer 1977), pp. 85-96. For detailed treatment of these naval roles, see Booth's book Navies and Foreign Policy (New York: Crane, Russak, 1977).

trade [protection or attack], projection of power ashore, naval diplomacy and strategic deterrence.⁸ And Vice Admiral (later Admiral) Stansfield Turner wrote in 1974 of four missions of the U.S. Navy: Sea Control and Projection of Power Ashore ("war fighting" missions) and Naval Presence and Strategic Deterrence ("deterrence" missions).⁹ Admiral Turner argued that Navy missions could not be allowed to remain fixed in an era of changing conditions. He noted:

Perhaps this constant flow and counter flow of mission emphasis and tactical adaptation is even more accentuated today than in the past. ...Naval officers, as professionals, must understand the Navy's missions, continually question their rationale, and provide the intellectual basis for keeping them relevant and responsive to the nation's needs.¹⁰

What are the missions of the U.S. Navy today? To avoid unnecessary complexity it is best to stick to generic missions rather than specific ones. These missions are naval presence, commerce protection (and attack in wartime), power projection, strategic deterrence and sea control.

Naval presence is a peacetime mission whose history for the United States dates back at least to the early Nineteenth Century, when ships of the U.S. Navy's Mediterranean Squadron,

8. Geoffrey Till (and others), Maritime Strategy And The Nuclear Age, 2nd Edition (New York: St. Martin's Press, 1984), Figure 2, p. 15.

9. Vice Admiral Stansfield Turner, U.S. Navy, "Missions of the U.S. Navy," United States Naval Institute Proceedings, Vol. 100 (December 1974), pp. 19-25. A Turner article on the same topic was published in the March-April 1974 issue of Naval War College Review.

10. Ibid., p. 25.

operating out of leased facilities at Port Mahon, Minorca, maintained a presence off the Barbary coasts to discourage piracy against American merchantmen. The variety of operational tasks subsumed under the presence mission range from goodwill port visits and participation in joint exercises with allied navies to furnishing naval aid (including advisors), providing a show of force or threatening naval bombardment, air attack or amphibious assault.¹¹ And although it is almost always linked in the minds of decision-makers with a peacetime operating condition, it is important to remember how sudden may be the transition from peacetime to hostile conditions for naval vessels.

Of the four services (counting the Marine Corps as a separate branch), the Navy is the one most subject to an almost immediate transition to combat. Army ground combat units are stationed forward in West Germany and South Korea, but they are deployed in defensive positions and any invasion of German or Korean territory would necessitate sufficient enemy preparations for attack to provide at least minimal tactical warning of that attack. Air Force squadrons and wings forward-deployed stage out of airbases well to the rear of what would be the forward edge of the battle area in the first hours of a war. In addition, Warsaw Pact attacks on U.S. Air Force facilities in West Germany, for example, would be tied to Pact preparations for an invasion of NATO-held

11. See Ken Booth's detailed inventory of naval functions in "Roles, Objectives and Tasks."

territory -- again some tactical warning likely would be provided prior to the arrival of the first strikes.

U.S. naval vessels, however, operate worldwide on the open oceans and in disputed waters, transit territorial seas and restricted waterways and anchor in the ports of countries with varying degrees of affection for United States practices and principles. There are no clearly defined "battlelines" at sea, as ships of navies hostile to the United States utilize their international rights as mariners on occasion to intermingle themselves with U.S. formations or to trail U.S. carrier task groups at absurdly close distances, given the ranges of presently-deployed cruise missiles. Under such conditions, the transition to hostilities can be almost instantaneous -- no tactical warning, practically zero reaction time. Admittedly, such hostilities in the recent past have been highly limited, such as attacks on individual Navy ships. Still, though you may not be in the midst of a major shooting war with a first-class enemy, you suddenly find yourself taking casualties and fighting for the life of your ship. Such was the case in June 1967, during the Six Day War, when the USS Liberty, a communications intelligence vessel operating in international waters off the coast of Egypt, suddenly found itself under repeated attacks from what turned out to be Israeli aircraft and torpedo boats, despite the facts that the U.S. was not a party to the war and Israel was an ostensible ally of the United States. Although the Israeli government subsequently acknowledged that its forces had

"mistaken the Liberty" for an Egyptian vessel (despite highly visible indications that the ship was American), the immediate cost included dozens of dead or wounded officers and men and a seriously damaged vessel.¹² Less than a year later, another U.S. Navy intelligence vessel, the USS Pueblo, operating in international waters off the coast of North Korea, was fired upon and seized by the North Koreans. Her crew remained captives for almost a year before being released and the ship was never returned.

In addition, the scale of the danger to U.S. naval vessels engaged in a presence mission can range far above that of a single ship under threat. During the 1973 Mid-East War, sparked by an Egyptian attack across the Suez Canal into the Israeli-held Sinai, the Nixon Administration ordered the U.S. Sixth Fleet to manifest a presence off the coasts of the embattled area in part as a show of force in support of Israel. Soviet fleet units in the Mediterranean rapidly took up stations effective for launching minimum-response-time missile attacks on the Sixth Fleet's carrier task forces. Before an Israeli-Egyptian-Syrian cease-fire was finalized, the United States' military forces had been placed on a DEFCON 3 alert by the President, following intelligence warning that the Soviet Union was preparing to intervene in the region with ground

12. For the most complete account to date of the incident, see James M. Ennes, Jr., Assault on the Liberty (New York: Random House, 1979).

combat troops.¹³ And while the U.S. Sixth Fleet did not find itself in a full-scale shooting war with the Soviet Navy in the Mediterranean during the 1973 Arab-Israeli conflict, the chances of that occurrence at one stage of the crisis looked sufficiently strong to cause serious concern in OpNav about the Fleets' war readiness and dispositions.¹⁴

The second mission, commerce protection, because of its basic defensive nature, historically received short shrift from the offensive-minded British and American navies in the opening phases of both World Wars. Its analogue (enemy commerce attack), proved more popular and more rapidly successful, particularly in the Pacific during World War II, where U.S. submarines accounted for 1,113 Japanese merchant vessels sunk out of a total of 2,346 Japanese merchantmen destroyed from all causes (47.4% of the total) -- thereby contributing substantially to the progressive strangulation of the Home Islands' economy months before long-range airpower was positioned to begin the systematic destruction of Japan's urban-industrial areas.¹⁵ Ironically, the Imperial Japanese Navy, it too imbued with the Mahanian search for the

13. For a brief description of the Alert episode, see Scott D. Sagan, "Nuclear Alert and Crisis Management," International Security, Vol. 9 (Spring 1985), pp. 122-128.
14. See the pertinent portions of Admiral Elmo Zumwalt's On Watch: A Memoir (New York: Quadrangle/The New York Times Book Co., 1976).
15. The figures for Japanese shipping sunk are taken from NAVEXOS P-468, The Joint Army-Navy Assessment Committee, Japanese Naval And Merchant Shipping Losses During World War II By All Causes (Washington, D.C.: The Navy Department, February 1947), pp. vi-vii.

decisive fleet action failed, throughout the war, to take sufficient measures either to protect its merchant shipping or to utilize its submarines as effective commerce raiders.¹⁶

As Britain found out in both World Wars, it was one thing to clear the seas of surface raiders -- the death of von Spee's East Asiatic Squadron in the Battle of the Falkland Islands in December 1914 capped the major German surface raider threat¹⁷ in World War I -- but it was quite another to handle Germany's unrestricted submarine warfare campaign. For example, during the first four months of 1917, before the German submarine threat had been contained, the Allies had suffered a net shipping loss of over two million tons -- some seven percent of all Allied and neutral shipping then afloat.¹⁸ The U.S. Navy in World War I had little to

16. The Japanese did not begin to institute convoy escort until April 1942 and even thereafter used it ineffectually. For a good summary account of the divergence between U.S. and Japanese submarine doctrine and practice, see E.B. Potter, ed., and Chester N. Nimitz, Fleet Admiral, USN, assoc. ed., Seapower: A Naval History (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1960), pp. 796-812.
17. For a useful, recent one-volume account of the World War I naval war, see Richard Hough, The Great War At Sea 1914-1918 (Oxford: Oxford University Press, 1983). Chapters 7 and 8 (pp. 87-120) cover the Battles of Coronel and the Falkland Islands.
18. Testimony of Rear Admiral William S. Sims, USN, before the investigating sub-committee of the Senate Naval Affairs Committee, March 1920; excerpted in Tracy Barrett Kittredge, Naval Lessons of the Great War: A Review of The Senate Naval Investigation Of The Criticisms By Admiral Sims of The Policies And Methods Of Josephus Daniels (Garden City, N.Y.: Doubleday, Page & Company, 1921), p. 113. By way of contrast, the Japanese during all of World War II lost only 8.6 million tons of merchant shipping to all causes. Japanese Naval And Merchant Shipping Losses During World War II, p. vi.

boast about in this regard, since even after the extent of the German U-boat threat and the British view that convoying would be needed to thwart it had been made known to the Navy Department by Admiral Sims, the Department could assert preposterously that "American vessels having armed guards [aboard] are safer when sailing independently."¹⁹

NATO plans for defense of Western Europe call for early reinforcement of the Central Front by U.S. forces in the event of a Warsaw Pact invasion. Since the overwhelming amount of unit equipment and supplies would have to be carried by ship, protection of Allied shipping to and from Europe and Japan would be of paramount importance in any NATO-oriented conflict protracted for more than a few weeks. Under such circumstances, the United States Navy could not afford to relegate this defensive task to a later stage of the conflict while awaiting the outcome of offensive operations.

Power projection is the third Navy mission. It is one mission which has received a significant amount of attention in the post-war period and one in which the Navy has had a great deal of practice under combat conditions, during limited wars in Korea and Vietnam. The three methods of naval power projection are amphibious assault, naval bombardment and naval tactical air. The tactics and techniques of modern amphibious warfare were developed by the Fleet Marine Force in the interwar period. The U.S. Marine Corps in the early 1920s had identified the need for seizure of advanced bases in a Pacific

19. U.S. Navy Department cable to Rear Admiral Sims, June 20, 1917; quoted in Kittredge, p. 120.

war. As Marine Corps Commandant Major General John A. Lejeune noted in 1923: "The seizure and occupation or destruction of enemy bases is another important function of the expeditionary force. On both flanks of a fleet crossing the Pacific are numerous islands suitable for submarine and air bases. All should be mopped up as progress is made."²⁰ The amphibious warfare mission was subsequently conferred on the Marines by the Joint Board's promulgation of Joint Action of the Army and Navy in 1927.²¹ During the course of the war in the Pacific during World War II -- beginning with the landing of the 1st Marine Division on Guadalcanal in August 1942 -- the Marines honed the techniques of amphibious assault under combat conditions. The last major opposed amphibious landing took place in September 1950, during the Korean War, at Inchon (Operation CHROMITE).²²

Naval bombardment was used almost exclusively by the U.S. Navy in World War II in support of amphibious assaults. In the Korean and Vietnam conflicts, however, because of the territorial configurations involved -- long, exposed

20. Lecture by Major General John A. Lejeune to the Naval War College, 1923; quoted in Lieutenant Colonel Frank O. Hough, USMCR, Major Verle E. Ludwig, USMC and Henry I. Shaw, Jr., Pearl Harbor to Guadalcanal, History of U.S. Marine Corps Operations In World War II: Volume I (Washington, D.C.: Historical Branch, G-3 Division, Headquarters, U.S. Marine Corps, 1958), p. 10.

21. Hough, Ludwig and Shaw, Ibid.

22. For an authoritative account of CHROMITE planning from the perspective of General MacArthur's headquarters, see D. Clayton James, The Years of MacArthur, Volume III: Triumph and Disaster (Boston: Houghton Mifflin Company, 1985), pp. 464-485.

coastlines and narrow breadths of territory, with significant road and rail lines close to the coasts -- and lack of a significant Naval or air threat to the bombarding ships, naval bombardment was also used for extended periods to interdict enemy traffic and strike at enemy troop concentrations.²³ Nevertheless, until the recent introduction of medium- range (and eventual introduction of long-range) land-attack cruise missiles into the Fleet, such power projection was limited by the comparatively short range of most of the naval guns utilized. With current and projected land-attack cruise missiles of high accuracy (either conventionally-armed or nuclear), Navy surface ships and submarines can now stand well off enemy coasts and direct effective attacks against targets located deep in the interiors of enemy countries.²⁴

U.S. Navy tactical air power came into its own in World War II, during the latter stages of the war in the Pacific, with the highly successful operations of the fast carriers of

23. See Turner, "Missions of the U.S. Navy," p. 21.

24. See Captain Linton F. Brooks, USN, "'New' as in Nuclear Land Attack Tomahawk," "Professional Notes" Section, United States Naval Institute Proceedings, Vol. 111 (April 1985), pp. 127-128; and Brooks' added comments on this issue in the "Comment and Discussion" section, United States Naval Institute Proceedings, Vol 111 (August 1985), pp. 21, 25.

Task Forces' 38 and 58.²⁵ Navy and Marine interdiction and close air support missions also were flown extensively and successfully during both the Korean and Vietnam wars.²⁶ Nonetheless, coping with the sophisticated air defense environment found today even in parts of the Third World is a continuing problem for the Navy's (and Air Force's) tactical air community and, undoubtedly, will increase in difficulty in coming years.

The fourth U.S. Navy mission is strategic deterrence, a mission that came to assume national prominence and "pride of place" in the early postwar years, under the sobering threat of nuclear weapons and the publicity devoted to strategic air warfare by the newly-emergent U.S. Air Force. Navy participation began in the 1949-1951 period with the initial formation and then overseas deployments of heavy attack (VC, later designated VAH) squadrons capable of carrying "special weapons." Navy VAH capabilities reached their peak of

25. Despite some shortcomings, the best existing account of the fast carriers remains Clark G. Reynolds, The Fast Carriers: The Forging of an Air Navy (New York: McGraw-Hill, 1968). For a brief chronology of fast carrier operations during the Second World War, see entries for Task Forces 38 and 58 in the third edition of NAVAIR 00-80P-1, United States Naval Aviation 1910-1980 (Washington, D.C.: Deputy Chief of Naval Operations (Air Warfare) and Commander, Naval Air Systems Command, 1981).
26. There are as yet no comprehensive, authoritative accounts of naval tacair operations during Korea and Vietnam. Some discussion of Korean air operations is included in Commander Malcolm W. Cagle, USN and Commander Frank A. Manson, USN, The Sea War in Korea (Annapolis: United States Naval Institute, 1957), while the Vietnam naval air war is covered in a popular account by coauthors Norman Polmar and Peter Mersky.

operational readiness in the 1959-1963 period, following the introduction (IOC-1956) of the A3D aircraft.²⁷ Navy Air's contribution to strategic deterrence was superseded ultimately by the fleet of POLARIS-missile-equipped nuclear submarines. Today's TRIDENT and POSEIDON SLBM submarines constitute the most survivable element of the United States nuclear deterrent forces.

The fifth and final Navy mission discussed here is sea control. It was placed last in this analysis because it is a facilitating mission -- one whose successful accomplishment provides for the easier accomplishment during wartime of other naval missions such as power projection or commerce protection or attack. That is not to say that these other missions may not have to be carried out without the Navy first establishing sea control -- for in today's world sea control must remain relative -- just that if sea control has been established beforehand the performance of these other missions will be facilitated. As Admiral William Crowe, the newly-announced designee as Chairman of the Joint Chiefs of Staff, wrote some years ago: "In essence, sea control is the navy's preeminent function, because it is a prerequisite for the successful

27. This analyst is now in the process of coauthoring with his father what is hoped will be the definitive book on the history of the Navy's Heavy Attack program.

conduct of other types of naval operations, including support of U.S. military forces deployed overseas."²⁸

In the pre-Twentieth Century period, this naval mission was labeled command of the sea, a terminological orientation appropriate to a period when at any one time there were only a handful of significant naval powers and when the winning of one or a few naval battles could assure naval domination for years at a time. Yet even in that earlier time, command of the sea was recognized as not being absolute in nature. Mahan pointed this out in his first great naval treatise:

The control of the sea, however real, does not imply that an enemy's single ships or small squadrons cannot steal out of port, cannot cross more or less frequented tracts of ocean, make harassing descents upon unprotected points of a long coastline, enter blockaded ports. On the contrary, history has shown that such evasions are always possible, to some extent, to the weaker party, however great the inequality of naval strength.²⁹

And by the early Twentieth Century, the rapid increase in naval weapons systems which could be used to dispute or disrupt local command of the sea at minimal cost to the inferior naval power employing them (submarines, mines) had rendered command of the sea an even more relative term. As Bernard Brodie commented in 1942:

28. William Crowe, "Western Strategy and Naval Missions Approaching the Twenty-First Century," in James L. George, ed., Problems Of Sea Power As We Approach The Twenty-First Century (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1978), pp. 21-22.

29. Mahan, Influence of Sea Power Upon History, p. 14.

In both world wars, for example, Germany has inflicted huge losses on Great Britain and her allies in the Atlantic, despite British command in that ocean, and has also enjoyed control in the Baltic. In neither war was the whole North Sea really commanded by either side, and the same has been true of the Mediterranean in the Second world War. Japan's command of the western Pacific in the months following her entry into the war did not save her from considerable losses there in merchant shipping and warships.³⁰

Thus, the U.S. Navy speaks today not of command of the sea but of sea control. Rear Admiral Henry E. Eccles provided an appropriate formulation of the types of sea control in evidence under modern conditions of naval warfare. It is presented below:

30. Bernard Brodie, A Layman's Guide to Naval Strategy (Princeton: Princeton University Press, 1942), p. 84. This work, which became a standard text, was later renamed A Guide to Naval Strategy.

TYPES OF CONTROL OF THE SEA BY AREA AND BY TIME

1. Absolute control (command of the sea)
Complete freedom to operate without interruption.
Enemy cannot operate at all.
2. Working control
General ability to operate with high degree of freedom. Enemy can only operate with high risk.
3. Control in dispute
Each side operates with considerable risk. This then involves the need to establish working control for limited portions for limited times to conduct specific operations.
4. Enemy working control
Position 2 reversed.
5. Enemy absolute control (command of the sea)
Position 1 reversed.³¹

The most important thing to remember about sea control is that it is a facilitating mission, not an end in itself. You seek control of the sea to further some other purpose. As Vice Admiral Richard L. Conolly, CINCNELM, noted in 1948: "I believe we err in advancing the proposition that 'Control of the Sea' is an end in itself. It is the exploitation of this control that is important."³² This is particularly true today, at a time when naval commitments have expanded far beyond increases in naval assets, and it is likely to remain the case in the first decade of the next century. This is important to remember, since in a wartime situation, the naval resources expended in obtaining sea control in a secondary

31. Eccles' notes, 20 January 1972; quoted in Till, Maritime Strategy And The Nuclear Age, p. 189.

32. (Emphasis in original.) Quoted in Till, *Ibid.*, p. 192.

theater could well serve to preclude the accomplishment of primary missions elsewhere.

The Interrelationship of Strategy and Tactics

Until late in the Nineteenth Century, thinking and writing about the strategy of employing navies in wartime occupied little of the time of serious-minded naval officers. In the Royal Navy of those pre-1880 days, then the preeminent navy afloat, the theoretical concentration, what little there was, was focused on tactics -- the fighting of fleet actions. As one British naval officer later expressed it:

For many years, British naval officers could bask comfortably in the warm afterglow of Trafalgar, assuring themselves that to 'engage the enemy more closely' was the master key to all warlike problems. ...The truth was that the Navy was not in the habit of thinking very much further than the naval battle. The naval officer knew how to fight a fleet action but had only very hazy ideas on how to conduct a war.³³

To a certain extent, this preoccupation with tactics to the exclusion of strategy was understandable. Unlike land battles which could continue for days, in the process turning into operations (as in World War I), sea battles normally ended in a matter of hours, as darkness inhibited pursuit. Also, unlike land combat in Europe, where the confines of territorial position usually forced defenders to stand and resist attack, at sea the inferior navy could continue to avoid action for weeks or months at a time, denying the superior navy the decisive engagement it sought. Bernard

33. T 124, Sea Power, p. 17.

Brodie noted: "The strategy familiar in land warfare of concentrating overwhelmingly against one enemy at a time and defeating him in turn is not feasible on the seas, where it may be blocked by the simple refusal of the inferior enemy to offer itself for destruction."³⁴

The seemingly endless attrition of merchant shipping in World War I eventually forced the British navy to begin thinking in strategic terms, as the land war had earlier instructed the British army, but it is ironic to recall that Admiral "Jackie" Fisher, who had been so forward-looking in advancing the building of the all-big-gun Dreadnought, could proclaim 'that no one would know his war plans until Der Tag itself' and as First Sea Lord during the first years of the war could continue to espouse foolhardy schemes for landing British expeditionary forces to seize and hold the German coast or its offshore islands in the face of what would have been overwhelming odds.³⁵ Of course, from the start of the First World War the British navy had two strategic responsibilities -- to impose an open blockade upon the German and German-controlled coasts, preventing oceanborn commerce from reaching Germany, and to contain the major strength of the German High Seas Fleet in home waters (the Heligoland Bight and waters south and east of the Horn Reefs). But these strategic tasks were defensive in nature and were thought to

34. Brodie, Guide to Naval Strategy, pp. 114-115.

35. See comments by Paul Kennedy in "Fisher and Tirpitz Compared," in his Strategy And Diplomacy and the Chapter "The End of Pax Britannica (1897-1914)," in his book Rise and Fall of British Naval Mastery.

be too passive for a navy steeped in the virtues of offensive action. Thus were born the continuing but mostly fruitless attempts by Britain's Grand Fleet to lure the High Seas Fleet out into waters where it could be brought to battle and finished off in a climactic fleet action.

U.S. Navy strategic thinking really came into its own during the interwar years, as Plan ORANGE (first drafted in 1914) was staffed out in The Joint Board, wargamed at the Naval War College, and refined, again and again.³⁶ The final approved version of ORANGE (1938) set forth the plan of operations in the Western Pacific as follows:

Conforming to the concept of the war, to extend our command of the sea in the PACIFIC progressively to the westward as rapidly as is consonant with the maintenance of secure lines of communication, and to conduct operations against ORANGE [Japan's] armed forces and sea communications in order to bring increasing military and economic pressures against ORANGE.³⁷

36. Formal navy war planning had begun in 1900, with the creation of the General Board. The General Board, which served at the Secretary of the Navy's pleasure, was charged with preparing war plans and coordinating the work of the Office of Naval Intelligence and the Navy War College. General Order 544, 12 March 1900; see Ronald Spector, Professors of War: The Naval War College and the Development of the Naval Profession (Newport, R.I.: Naval War College Press, 1977), particularly pp. 136-138.
37. Section V; J.B. No. 325 (Serial 618), JOINT ARMY AND NAVY BASIC WAR PLAN - ORANGE (1938) ... PREPARED AND SUBMITTED BY THE JOINT BOARD [Approved 26 and 28 February 1938]; Joint Board Records, National Archives, p. 9.

The major problem with Plan ORANGE was that it was designed for a war between the United States and Japan alone,³⁸ but by mid-1938 it was becoming evident that Germany and Italy could join forces with Japan to pose a two-ocean threat to the United States.³⁹ The result was a move away from ORANGE and the beginning of analyses on what became the RAINBOW Plans.⁴⁰

During the Second World War, Navy strategic thinking played a major part in the concepts of operations approved by the Joint Chiefs of Staff, particularly those in the Pacific, where COMINCH-CNO Admiral (later Fleet Admiral) Ernest King's concept of using island-hopping amphibious assaults to bypass and isolate Japanese strongholds was employed very effectively by the Navy-Marine Corps Team during the Central Pacific

38. Among the assumptions of ORANGE was that "[t]he superiority of the UNITED STATES naval strength over that of ORANGE will be adequate to permit operations by the UNITED STATES FLEET to the westward of OAHU; and any assistance which may be given to ORANGE or to the UNITED STATES by other powers will not materially reduce this superiority." Section II; Ibid., p. 1.
39. See J.B. No. 325 (Serial 634), JOINT PLANNING COMMITTEE EXPLORATORY STUDIES IN ACCORDANCE WITH J.B. 325 (SERIAL 634) 4-21-39;" Joint Board Records, National Archives.
40. For material on Plan ORANGE and the move to the RAINBOW Plans, see Louis Morton's "Germany First: The Basic Concept of Allied Strategy in World War II," in Kent Roberts Greenfield, ed., Command Decisions (New York: Harcourt, Brace and Company, 1959), pp. 3-38; Morton's "War Plan Orange: Evolution of a Strategy," World Politics, Vol. 2 (January 1959), pp. 235-245; Morton's Strategy and Command: The First Two Years, United States Army In World War II Series: The War in the Pacific (Washington, D.C.: Office of the Chief of Military History, 1962), pp. 21-91; and Michael K. Doyle, "The U.S. Navy And War Plan Orange, 1933-1940: Making Necessity A Virtue," Naval War College Review, Vol. 32 (May-June 1980), pp. 49-63.

campaign.⁴¹ And in the early post-war years, Op-30 -- the Strategic Plans Division in OpNav -- was turning out some particularly useful appraisals of current war plans, based on naval geopolitical perspectives.

The difficulty in retaining a balanced strategic perspective over many years, however, is that as a Service moves farther and farther away from the last major conflict in which it was involved and as the officers who had fairly extensive combat experience in that conflict retire, the Service's collective judgment about what it would take to successfully fight such a conflict in the future becomes ever more tenuous. The point was aptly expressed by General Sir David Fraser with regard to the state of the British Army in the interwar years:

So great a victory as that of the First World War should have been followed by a determination to protect its fruits and to learn its lessons. Instead, the next twenty years were marked by neglect of every principle which the war had produced. ...

Almost throughout the last twenty-one years, however, the British Army had no clear role to guide it towards preparedness for war. Instead it was absorbed by the many tasks of imperial policing which arose in the aftermath of 1918 and for which it was often inadequate in size; as well as by the minutiae of garrison and regimental life without clear military purpose. ...

The lack of defined role and this determination to regard the experience of the First War as an aberration rather than a foundation had two

41. For information on King's strategic thinking, see Thomas B. Buell, Master of Sea Power: A Biography of Fleet Admiral Ernest J. King, (Boston: Little, Brown and Company, 1980), pp. 214-225, 354-361, ff. General MacArthur in the Southwest Pacific also effectively utilized island-hopping techniques.

other notable effects. The first was a half-hearted attitude toward technological and tactical development. This is not to say that there was not study and profound discussion, by particular officers, of the tactical lessons of the war and the way ahead. There was, and the professional periodicals of the day are full of it. Staff College courses hummed with argument. But in the absence of any coherent strategic philosophy on what sort of war the army might in future have to fight, there was failure to develop a clear line at the official level, to evolve and establish tactical doctrine and draw organisational deductions therefrom. Instead, policy in these matters drifted, subject to the pressure of interested lobbies or inertial forces.⁴²

Needless to say, the United States Navy has not fought an unlimited conventional war since August 1945. Similarly, few of the officers who held senior field grade combat assignments (much less flag assignments) during the limited war in Vietnam are still on active duty. This is not to say that the strategic concepts developed today by the Navy's strategic planners should be doubted, just that they should be examined carefully and with a jaundiced eye.

Some Thoughts on Strategy

The first point that should be made here is that the Service strategy chosen must relate to the needs of the state. It is worth echoing Michael McGuire that "maritime strategy is wholly about the use of the sea and only incidentally about the use of force at sea."⁴³ It was all very well for

42. David Fraser, And We Shall Shock Them: The British Army in the Second World War (London: Hodder and Stoughton, 1983), pp. 5-7.

43. McGuire, "Changing Naval Operations and Military Intervention," p. 6.

Jackie Fisher in the years before the First World War to urge the need for a landing by a sizeable portion of the British Expeditionary Force on Germany's Pomeranian coast to tie down a large segment of the German army, but what was it supposed to accomplish in the larger scheme of the war? Arthur Marder recounted the General Staff's appreciation of this strategic concept.

No important objective was vulnerable to a joint attack, and the British Army was too small to be able to occupy a large portion of the German army detailed for the defence of the German Baltic coast. Such an operation 'could produce no decisive military effect; while in the meantime the decisive battles of the land campaign might have been lost for lack of our support and assistance. Direct support to the French army affords a better prospect of useful result.'⁴⁴

In this day of constrained military forces and unconstrained national geopolitical responsibilities, the individual Service strategies for the employment of force must be subsumed under the larger national strategy of the state so that the available military resources can be drawn upon in the ways deemed most effective to the accomplishment of state purposes. The days of going it alone are long past. As Lord Esher, a member of Britain's Committee of Imperial Defence, complained in 1910: "[I]n spite of all that has happened since 1904, Ministers and Sea Lords, etc., cannot get the idea out of their heads that you can fight a great war in water-tight

44. Quoting a General Staff memorandum of November 1908; Arthur J. Marder, From The Dreadnought To Scapa Flow: The Royal Navy In The Fisher Era, 1904-1919, Volume I: The Road To War, 1904-1914 (London: Oxford University Press, 1961), pp. 386-387.

compartments -- the Navy to manage the sea part of the business, the Foreign Office and the War Office to do their share, etc."⁴⁵

What this means in concrete terms is that the strategy chosen must accomplish what the state needs to have done, not necessarily what the Service might like to do. In a global protracted conventional conflict that began with a Warsaw Pact invasion of Western Europe, the first responsibility of a maritime strategy (from a national perspective) would be to assist in NATO's defense of the Central Front. At the least this would entail protecting the important sea lines of communication to Europe (and Japan) to ensure that sufficient supplies and equipment destined for the troops in Europe would arrive. It could also entail direct air, bombardment or amphibious support to the Central Front or its flanks. How these tasks would be accomplished would vary depending upon the unfolding conflict and the naval forces available, but the strategic ends would not be in question under such circumstances. First you must provide the forces required to accomplish the main tasks; those forces left over (if any) can then be allocated to the secondary tasks. An apparent lack of focus as to the relative strategic priorities appears to be one problem with at least the public discussions of the maritime strategy. One supporter of the maritime strategy recently summarized the general objectives of the strategy:

- ° Deter war if at all possible

45. Esher to Balfour, 16 August 1910; quoted in Ibid., pp. 383-384.

- ° If deterrence fails: destroy enemy maritime forces, protect allied SLOCs, support the land campaign, and secure favorable leverage for war termination.⁴⁶

And what are you going to do for an encore? Even God created things according to a certain set of priorities!

A second point, related to the first, is that in order to accomplish the strategic purposes intended, a Service (and a state) must concentrate its efforts on achieving its primary tasks, and this necessitates avoiding an undue dispersion of available military power. Bernard Brodie commented: "The problem is one of determining, first, the area of chief importance, and second, the minimum amount of strength necessary to achieve one's objectives in that area. Any remaining strength [then] can be spared for service elsewhere if it be badly needed...."⁴⁷

The Germans in the Second World War had a superb grasp of military tactics and a fine understanding of land operations, but they consistently lacked intuitive strategic sense -- always opportunistically shifting the focus of their efforts, often just when a bit more push would have paid big dividends. This point was made by Britain's official naval historian of World War II in regard to the German anti-shipping campaign during the first years of the war:

46. Major Hugh K. O'Donnell, Jr., USMC, "Northern Flank Maritime Offensive," U.S. Naval Institute Proceedings, Vol. 111 (September 1985), p. 49.

47. Brodie, Guide to Naval Strategy, p. 144.

It will be remembered that between March and June 1941 we suffered heavy losses on our coastal routes [from German aircraft]. Then, just when he might have gained a real ascendancy, the enemy transferred a great proportion of his forces to the Russian front. In retrospect it seems that the Germans never fully realised the possibilities of achieving valuable, perhaps decisive, results by air attacks on our coastal waters -- particularly with torpedoes. They often frittered away their available strength by bombing land targets of doubtful importance, and with little effect. Because of this, by the end of 1942 they no longer possessed the strength to make a sustained effort. Once more the tendency of the Germans not to adhere to one purpose and one object for long enough to produce decisive results is to be remarked. There can be little doubt that Hitler's unstable temperament, his insistence on keeping all powers of decision in his own hands, and his intuitive 'inspirations' prevented the formulation and maintenance of sound strategic purposes. None the less the weakness of his Service advisers stands fully revealed by repeated abandonments of their objects just when results were beginning to be obtained.⁴⁸

Similarly, the Japanese during the early months of World War II significantly weakened their strategic position by dispersing their efforts too widely. The "First Phase" of their offensive operations was highly optimistic, given their available military resources. It called for:

First Period: Invasion of the Philippines, Malaya, Borneo, Celebes, Timor, northern Sumatra, and key points in southern Sumatra (Palembang) and the Bismarck Archipelago.

Second Period: Invasion of Java and occupation, at the opportune time, of airfields in southern Burma.

Third Period: Pacification of occupied areas

48. (Emphasis added.) Captain S.W. Roskill, D.S.C., R.N., The War At Sea 1930-1945, Volume II: The Period of Balance (London: Her Majesty's Stationary Office, 1956), pp. 260-261.

and, depending on the situation, completion of operations in Burma.⁴⁹

The near simultaneous operations against objectives as much as thousands of miles apart strained Japanese military resources to the utmost. That they proved so rapidly successful -- i.e., except for the last-ditch fighting on Bataan, all objectives essentially were achieved earlier than expected or according to the invasion timetables -- proved Japan's ultimate undoing. The ease with which the first phase operations were carried out caused Japanese military and political leaders to underestimate the United States' remaining military strength and its recuperative powers. A decision eventually was made to further expand the defense perimeter by launching attacks to capture Port Moresby (New Guinea), Midway and the Aleutian Islands. In this case, the further advance to positions in the Solomons and southeastern New Guinea was defended in terms of acquiring air bases that would strengthen Japan's strategic defense position, intensifying pressure on northeastern Australia and depriving "the Allies of key positions for a counter-attack."⁵⁰ The

49. Nampogren Sakusen Kiroku (Southern Army Operations Record), 1st Demobilization Bureau, July 1946; cited in Reports of General MacArthur, Volume II - Part I: Japanese Operations In The Southwest Pacific Area (Compiled From Japanese Demobilization Bureaux Records) (Washington, D.C.: Department of the Army, 1966), p. 60. First printed by General MacArthur's Tokyo headquarters in 1950, these volumes were not reproduced and distributed by the Department of the Army until after the General's death.

50. Japanese Operations In The Southwest Pacific Area, Ibid., p. 127.

expenditure of forces for these operations, however, acted to drain off Japanese forces that were necessary for the consolidation and defense of Japan's initial conquests.

The result was an overall weakening of Japan's defense perimeter. As the Naval Analysis Division of the United States Strategic Bombing Survey (Pacific) expressed the resulting situation:

[T]he reserve strength which should have been used in consolidating the positions seized in the initial phase was dissipated in the unsuccessful attempts at further expansion. In view of the limitations of Japanese military strength, shipping, and the national economy, this attempt to expand an already too big strategic sphere brought about unsolvable problems. At the time when the defenses of those areas which had to be held at any cost were left wanting, operations for the capture of Port Moresby, Midway, and the Aleutians were undertaken, thereby further dissipating the nation's strength.⁵¹

And as one senior Japanese participant remarked in retrospect:

I think there was a mistake at the top from the very beginning as to the nature of modern warfare. If a little closer study had been made of the Second world War as it started in EUROPE, especially in the fighting going on between ENGLAND and GERMANY around the MEDITERRANEAN, the fighting that meant so much consumption of material, and if we had laid our plans from the beginning with some sounder ideas as to the nature of modern war in mind, it might have been different. We had at the beginning only 6,000,000 tons of ship bottom, and once the war started, the plan adopted was to build a million tons annually. That was a puny figure as compared to the amount actually needed, and the same applied

51. United States Strategic Bombing Survey (Pacific), Naval Analyses Division, The Campaigns of the Pacific War (Washington, D.C.: United States Government Printing Office, 1946), p. 4.

as to the other consumption materials, armaments, etc.; entirely too small a scale.⁵²

A final point that should be discussed in this section is that even during the course of a protracted conventional war with the Soviet Union, the U.S. Navy will be in the position of fighting with a limited number of naval assets. In the decade 2000-2010 it is highly unlikely, for instance, that the Navy will possess more than the 15 carrier battle groups now envisioned by the Lehman Navy Department. When one looks at the handful of remaining Government and private shipbuilding yards in this country capable of constructing modern naval vessels and recalls the length of time it now takes to construct a new ship, it is hard to imagine the breadth and depth of shipbuilding capacity which the United States possessed during World War II. In July 1940 there were 29 new construction shipyards and 19 conversion and repair yards in the United States -- a total of 48. By September 1943, the highest point reached during the war, total shipyards in the

52. Interrogation NAV No. 75 USSBS No. 378, Tokyo, 13-14 November 1945, Interrogation of Admiral Soemu Toyoda, Chief, Naval Combined Forces September 1945; OPNAV-P-03-100, United States Strategic Bombing Survey (Pacific), Naval Analysis Division, Interrogations of Japanese Officials, Volume II (Washington, D.C.: United States Government Printing Office, 1946), p. 318.

U.S. had risen to 522 (300 new construction and 222 conversion and repair yards).⁵³

Because of this sizeable shipbuilding capacity and an increased efficiency of production, ship construction times for U.S. naval vessels decreased dramatically during the war. By the end of 1943, the mid-point in the conflict, it was taking an average of only 32 months to construct a battleship, 15½ months to build an aircraft carrier, 7 months to construct a submarine and 5½ months to build a destroyer.⁵⁴ As the BuShips History noted:

This remarkable record in construction enabled us in a single year to build up our carrier strength from the low point reached in the autumn of 1942, when SATAROGA, ENTERPRISE, and RANGER were the only ships of our fleet carrier forces remaining afloat, to a position of clear superiority in this category. The rapidity with which new carriers of various types were put into service in 1943 influenced naval operations in many important respects. Availability of several ships of the ESSEX class and of a considerable number of smaller carriers, completed months ahead of schedule, contributed to the success of our operations in the Southwest Pacific, aided materially in checking the submarine menace in the Atlantic, and enabled us to launch an offensive in the Central Pacific before the end of the year.⁵⁵

53. An Administrative History Of The Bureau Of Ships During World War II, First Draft Narrative Prepared By The Historical Section Bureau of Ships, Volume II (unpublished manuscript, Navy Department, 1952), Table 31, p. 166. The high point for new construction shipyards (322) was reached in December 1942 and declined gradually thereafter. The high point for conversion and repair shipyards (248) was reached in September 1944 but declined only slightly thereafter.

54. Ibid., p. 176.

55. Ibid., p. 368.

The phenomenal rate in U.S. naval construction enabled the United States Fleet to rapidly overtake and then outdistance its Axis naval opponents in fleet size. On 1 December 1941, the U.S. Fleet had only 902 vessels of all types in commission (345 principal combat vessels). As of 1 April 1945, however, the U.S. Fleet had 7,964 vessels of all types in commission (1,172 principal combat vessels) and another 795 vessels under construction.⁵⁶ The change in numbers of aircraft carriers -- the ship type which came to dominate the war in the Pacific -- tells the tale. On 1 December 1941, the U.S. Navy had 7 fleet (CV) aircraft carriers and 1 escort carrier in commission. Four of the fleet carriers (Lexington, Yorktown, Wasp and Hornet) were sunk by the Japanese in 1942. But by 1 April 1945, the U.S. Navy had in commission 18 fleet aircraft carriers (mostly Essex class), 8 small or light (CVL) aircraft carriers (Independence class) -- the 9th of the class, Princeton had to be scuttled following a devastating Kamikaze hit during the battle for Leyte Gulf in October 1944 -- and 65 escort (CVE) carriers (various classes) -- six of the 70 escort carriers commissioned after 1941 had been sunk by this time: Liscome Bay, Block Island, St Lo, Gambier Bay, Ommaney Bay and Bismarck Sea. In addition, 11 fleet carriers, 3 large (CVB) aircraft carriers (Midway class --none commissioned until

56. Statistical Section, Division of Naval Intelligence, April 20, 1945, Confidential, "Table X United States Fleet (From Pearl Harbor to Apr 1, 1945)," (Declassified), carbon of a typescript document in the author's possession, p. 2.

after the war), 2 light aircraft carriers and 15 escort carriers were under construction as of April 1945.⁵⁷ With such a complement of available carriers, it is clear to see why U.S. fast carrier task forces were able to steam off the Japanese coasts almost at will during much of 1945.

However, it is a simple fact of life in 1985, and is likely to remain so in 2010, that because of the complexity of modern ship design and the limited U.S. shipbuilding mobilization capacity, even in the course of a protracted conventional war with the Soviet Union, United States industry is unlikely to be able to furnish the fleet with more than a handful of major combat ship replacements for the ships that are lost in the opening engagements of the war. What the Navy takes to war is likely to be most, if not all, of what it can expect to have at the conclusion of the fighting.

This description of U.S. World War II carrier assets was provided for more than just illustrative purposes. By mid-June 1944, when United States forces began the invasion of Saipan in the Marianas, the U.S. Navy had a total of 13 fleet carriers, 9 light carriers and 63 escort carriers in commission and available for a wide variety of operational missions.⁵⁸ For the Saipan operation, Vice Admiral Mark

57. Ibid., p. 3. For complete information on U.S. carrier commissionings, dispositions and status, see "Appendix III Aviation Ships," in United States Naval Aviation 1910-1980, pp. 365-379.

58. This count comes from checking commissioning dates of U.S. carriers in lists contained in "Aviation Ships" and verifying the numbers obtained by reference to the listing of aviation ships in active status as of 1 July 1944; Appendix III, Ibid., pp. 365-371, 378.

Mitscher's Task Force 58 consisted of 7 fleet carriers and 8 light carriers. In addition, an initial force of 11 escort carriers was attached to the Attack Forces to provide air cover for the assault and close air support for operations ashore. With a carrier force this size, the U.S. Navy was able to stay in an area and fight it out with Japanese land-based air rather than employ the hit-and-run tactics used earlier in the Pacific war. This significant tactical change had been evolving gradually since the Hollandia Operation in April 1944. Commodore (later Admiral) Arleigh Burke, Admiral Mitscher's Chief of Staff, recalled: "Carrier tactics, or rather task force tactics were gradually evolving from the hit-and-run tactic to a stay-and-slug-it-out tactic. The stay-and-slug-it-out business meant that we had to get rid of the enemy air permanently."⁵⁹

If you contrast this situation with the carrier forces the Navy is likely to have available in the first decade of the Twenty-First Century, the disparity is quite evident. In terms of peacetime deployments, a 15 attack carrier force size provides for 5 carriers to be forward deployed -- 2 in the Mediterranean or North Atlantic, 2 in the Western Pacific and 1 in the Indian Ocean (under current deployment patterns). Surging additional carriers forward upon crisis or warning of a Warsaw Pact attack into Western Europe could at least double

59. "Narrative by: Commodore Arleigh A. Burke, USN, Carrier Forces Pacific, Battle of the Philippine Sea," Recorded: 20 August 1945, Secret (declassified), transcript, p. 5; Interview Files, Operational Archives, U.S. Naval Historical Center, Washington Navy Yard.

that number. But even under that condition, the Navy would not be able to operate more than 5 or 6 carriers in the North Atlantic- Norwegian Sea- North Sea area without seriously drawing down carrier assets needed elsewhere around the Eurasian periphery and in home waters. Giving this sized force the benefit of the doubt, it would have a complement of some 525 aircraft,⁶⁰ of which perhaps as many as 475 would be rated mission capable.⁶¹ Of this number of aircraft, (given current wing compositions) only about 210 would be attack aircraft capable of conducting efficient strikes against land targets.⁶²

In contrast, during the Marianas campaign referred to above, Task Force 58's fifteen fast carriers provided a complement of 900 aircraft of equivalent capability (for its time). 416 of these were attack aircraft (VB or VT). During the 56-day campaign, these carriers generated an average of 400.57 action sorties a day, and while under heavy air attack on 19 June 1944, Task Force 58 generated 688 action sorties - 249 of them bombing sorties. Total sorties flown during the

60. This count is derived from adding 6 carriers at 90 aircraft per carrier for 3 CVNs and 85 aircraft per carrier for 3 Forrestal or Kitty Hawk class CVs.

61. Based upon a 90% mission capable rate.

62. The current standard attack aircraft complement aboard a CV or CV(N) consists of two light attack squadrons of 12 aircraft each and one 10-plane medium attack squadron.

period amounted to 27,250 -- an average of 486.6 a day.⁶³ Thus, for one (admittedly major) operation in a Pacific war covering many thousands of miles of "front," the U.S. Navy was able to assemble a force at least twice as strong in relative terms as that which the U.S. Navy could mount on NATO's northern flank in the 1990s or early 2000s without seriously depleting its carrier forces elsewhere around the world.

When one factors in expected attrition to the carrier force in the first days of combat operations, the situation becomes even more sobering. For example, during the Okinawa Campaign (18 March - 21 June 1945), Task Force 58⁶⁴ operated continuously in a 60-mile-square area northeast of Okinawa and within 350 miles of Japan. Its carrier strength

63. Action sorties are defined as ones involving contact with the enemy. The above figures are from "Intensity of Carrier Air Operations," memorandum compiled by the Aviation History Unit (OP-05D), OpNav, 23 August 1948; Carrier Files, Naval Aviation History Office, Washington Navy Yard. This memo was based upon a fairly exhaustive canvassing of Navy records in response to an official request. The compiler noted: "The action sorties listed in Combat Statistics in WWII are not useful for this purpose because they include only those sorties on which enemy [sic] aircraft or targets were attacked, omit CAP etc." In October 1944, the representative aircraft complement for a fleet carrier consisted of 97 aircraft -- 55 fighters, 24 bombers and 18 torpedo bombers. "Table VII Representative Aircraft Complements for Fast Carriers on Selected Dates," (Source: Weapons System Evaluation Group Staff Study No. 4, Operational Experience of Fast Carrier Task Forces in World War II, August 15, 1951, p. 50); in Desmond P. Wilson, Jr., "Evolution of the Attack Aircraft Carrier: A Case Study In Technology and Strategy," (Unpublished Ph.D. dissertation, Massachusetts Institute of Technology, 1966), p. 61.

64. On 28 May 1945, overall command passed from Spruance's Fifth Fleet to Halsey's Third Fleet, and Task Force 58 was redesignated Task Force 38.

at the start of the campaign consisted of 10 heavy and 6 light carriers. It was during this fighting that the Japanese first made extensive use of Kamikaze (suicide) attacks on U.S. vessels -- employing conventional aircraft, bombs and Baka flying bombs. In terms of potential destructiveness and penetration to the target these human-guided weapons were the closest World War II equivalent to the destructive and penetration capabilities provided by modern anti-ship cruise-missiles. Commodore Arleigh Burke recounted what happened in the first days of the campaign:

The [U.S.] attack started on the 18th of March. The first attack was against [the] Kyushu Area. Enemy air attacks damaged a sufficient number of ships that the number of our air attacks was reduced by a third almost at once, except for a very short period between the 8th and 17th of April.

The enemy air reaction to the task force right off their coast was very slight [in the first days]. They sent very few aircraft against us, but those they did send against us were good. Their people were aggressive and the attacks were determined. They tried to get in. They also found that they could use single aircraft advantageously if they used cloud cover; that is, it was cheaper for them to use a few planes widely separated coming in under the clouds than it was to make a mass attack, although there were a few small mass attacks, perhaps by suiciders, which were well pressed home, but did not arrive.

Most of the suiciders at this time were coming in on a glide attack. However, the YORKTOWN and the ENTERPRISE were hit by bombs and the INTREPID got a near miss, which was from a probable suicide. Damage to the YORKTOWN was very slight. The bomb

that hit the ENTERPRISE didn't go off, so we were able to continue.⁶⁵

The priority targets for the Kamikaze attacks were the U.S. fast carriers. Luck and the relative lightness of the first days' attacks spared Task Force 58 major damage early on. On 18 March, Enterprise, Intrepid and Yorktown were slightly damaged. The next day Franklin was heavily damaged and Wasp was also hit. On 6 April, however, the Japanese began making mass suicide attacks, involving in total some 1,500 aircraft in seven raids from 6 April to 28 May. On 6 April San Jacinto was hit. The next day Hancock was hit. On 11 April Enterprise was hit for a second time and Essex sustained damage. On 16 April Intrepid was hit again -- this time badly. On 11 May Bunker Hill was hit heavily by two suicide aircraft. And on 14 May Enterprise was hit for a third and final time -- this time severely enough to require major repair. In all, though no U.S. fast carrier was sunk during the Okinawa Campaign, eight heavy carriers and one light carrier were hit

65. (Emphasis added.) "Narrative by: Commodore Arleigh A. Burke, USN, Carrier Forces Pacific -- Tokyo Strike, etc.," Recorded: 21 August 1945, Secret (declassified), transcript, pp. 9-11; Interview Files, Operational Archives, U.S. Naval Historical Center, Washington Navy Yard.

by the Kamikazes.⁶⁶ Three of the carriers -- Franklin, Bunker Hill, and Enterprise -- spent the final months of the war in the Yard, undergoing battle damage repair. Of the others, Intrepid was out of action for some five weeks and Hancock for seven weeks for repairs.⁶⁷ Thus, of Task Force 58's original carrier force, 56 percent of it was hit by Kamikazes and 31 percent of it was damaged severely enough to be pulled out of the line for major repairs.

As the Naval Analysis Division of the United States Strategic Bombing Survey (Pacific) summed up the Kamikaze attacks during the Okinawa Campaign:

The expected air reaction was slow to materialize and for the first few days was relatively light. However starting on 6 April, the Japanese Air Forces struck with a fury never before encountered. The scale of effort in suicide attacks was the most outstanding and spectacular aspect of the Okinawa operation. During the period from 6 April to 22 June, ten major organized Kamikaze attacks were carried out. ...During this operation there were 896 air raids in the objective area. A total of approximately 4,000 Japanese planes were destroyed

66. This accounting of details comes from the Okinawa Campaign entry in United States Naval Aviation 1910-1980, p. 141; and "Third and Final Report to the Secretary of the Navy Covering the period 1 March 1945 to 1 October 1945 by Fleet Admiral Ernest J. King Commander In Chief, United States Fleet, and Chief of Naval Operations (Issued 8 December 1945); reprinted in Fleet Admiral Ernest J. King, U.S. Navy, U.S. Navy At War 1941-1945: Official Reports to the Secretary of the Navy (Washington, D.C.: United States Navy Department, 1946), pp. 180-184.
67. Information on carrier damage and time out of action comes from "U.S. Carrier Losses During WW II," undated memorandum, no serial; and handwritten charts on carrier battle damage and Yard time (including time lost enroute to the Yard), no title, undated, no serial; both in Carrier Files, Naval Aviation History Office, Washington Navy Yard.

in combat, of which 1,900 were suicide planes. The violence of this attack is further revealed by the damage inflicted on United States forces; of 28 ships sunk by air attack, 26 were by Kamikaze planes; of 225 damaged by air attack, 164 were by this means. Practically all of these attacks were directed against ships.⁶⁸

It is not hard to imagine the amount of damage caused to a five- or six-carrier task force operating, say, off the North Cape by multiple launches, from a variety of platforms, of anti-ship cruise missiles, even if the missiles were only conventionally-armed. And, unlike 1945, if several of the carriers were put out of action for weeks or months at a time, there would be few replacement vessels to take over their tasks.

The foregoing discussion was not an attempt to denigrate the substantial offensive capabilities that a modern carrier battle group possesses. Nor was it an attempt to assert that Navy carriers must be kept out of harms' way because they are too valuable to lose. Navy offensive missions require that its ships and aircraft be capable of operating in forward positions of high enemy threat. However, given the expected level of attrition to carrier force capabilities (and mission kill rather than sinking is the biggest threat) in the first days of high-tempo operations -- based upon an examination the historical record -- it is best that Navy planners have anything but a sanguine view of the potential costs to these battle groups and, accordingly, that they balance the expected strategic advantage to be gained from the use of these

68. USSBS, Campaigns of the Pacific War, p. 325.

carriers in a particular operation with a realistic assessment of the strategic cost likely to be incurred.

Some Thoughts on Tactics

The first point to be discussed in this section is that the U.S. Navy's preoccupation (obsession would perhaps be too strong a word for it) with decisive battle is inappropriate for war under modern (and likely future) conditions. The Royal Navy's belief in the primacy of the decisive "big battle" during the Nineteenth and early Twentieth Centuries could be traced to the legacy of Lord Nelson, who had remarked in the days before Trafalgar: "It is, as Mr. Pitt knows, annihilation that the country wants, and not merely a splendid victory...honorable to the parties concerned, but absolutely useless in the extended scale to bring Bonaparte to his marrow bones...."⁶⁹ The U.S. Navy's search after the decisive battle, however, can be traced to the writings of Mahan. It was Mahan who denigrated the long-term effects of a war against commerce and who placed the capital-ship-to-capital-ship engagement upon its high pedestal.

In his Influence of Sea Power Upon History, Mahan wrote of Nelson's victory at Trafalgar: "At Trafalgar it was not Villeneuve that failed, but Napoleon that was vanquished; not Nelson that won, but England that was saved; and why? Because Napoleon's combination failed, and Nelson's intuitions and activity kept the English fleet ever on the track of the

69. Quoted in Oliver Warner, Nelson's Battles (New York: The Macmillan Company, 1965), p. 167.

enemy, and brought it up at the decisive moment."⁷⁰ And it was Mahan who wrote of commerce-destroying thusly:

So far we have been viewing the effect of a purely cruising warfare, not based upon powerful squadrons, only upon that particular part of the enemy's strength against which it is theoretically directed, -- upon his commerce and general wealth; upon the sinews of war. The evidence seems to show that even for its own special ends such a mode of war is inconclusive, worrying but not deadly; it might almost be said that it causes needless suffering.⁷¹

Yet if the naval aspects of the First and Second World War have taught us anything it is that under conditions of total war between highly-industrialized great powers it is the gradual accumulation of victories amidst the mass of attrition that decides war at sea in the Twentieth Century, not the single, decisive "big battle" which Mahan had written about and which had so fired the imaginations of naval staffs worldwide in those pre-World War I days. It was not Bismarck's destruction of HMS Hood that was the lesson to be learned but rather her subsequent hounding and destruction by a combination of British naval forces which were superior in the aggregate, not the individual sense, to Bismarck.⁷² Of course, decisive naval engagements still did take place -- witness the U.S. victory at Midway in June 1942 -- but they

70. Mahan, Influence of Sea Power Upon History, pp. 11-12.

71. (Emphasis added.) Ibid., p. 136.

72. A good, short account is to be found in Captain S. W. Roskill, D.S.C., R.N., White Ensign: The British Navy At War 1939-1945 (Annapolis: United States Naval Institute, 1960), pp. 127-138. This is a one-volume version based on his three-volume official history.

were decisive in terms of eventual victory in a continuing protracted war, not in terms of an early end to the fighting. The Japanese Combined Fleet was beaten badly at Midway but it was not put out of the fight by any stretch of the imagination. Echoing Winston Churchill (in a different context), Midway may have marked the end of the beginning of the Pacific War but not the beginning of the end. The much more common naval battles of the Second World War in the Pacific were like the deadly, bloody surface actions in the waters off Guadalcanal in the fall of 1942 -- Savo Island, Cape Esperance, Guadalcanal, Tassafaronga -- or the slow but inexorable island-hopping amphibious operations that lopped off the tentacles of Japan's empire one by one from 1943 on.

This Navy preoccupation with the decisive battle can be linked in a larger sense with the lure which an offensive posture has always had for the British and American navies -- the belief that an offensive role was always best for a navy worth its salt and that the defensive role was only for second class navies and also-rans. This sentiment was no doubt good for morale and perfectly fine for a navy possessing clear superiority over its foes but it displayed a certain lack of insight for those situations in which an adequate superiority either hadn't been established or could not be attained for one reason or another. Offense and defense are but two sides of the same coin, and to deny the role of one in favor of the

other makes neither strategic nor tactical sense. As Frank Uhlig noted in a 1982 article on naval tactics:

Naval tactics consist of the actions taken by a commander to seek battle or avoid it, to continue battle or break it off, and, when engaged, to bring the optimum amount of fire possible upon the enemy as quickly as possible for as long as necessary to achieve his purpose.

The tactics a commander will employ will depend on his given task and that he believes to be the enemy's; on the nature and number, or "capabilities," of the sensors and weapons he has and believes his opponents to have; and on the prevailing natural conditions.⁷³

There are clearly times when it is necessary for a navy, or significant elements of it, to assume a defensive posture, but it should be remembered that what may be a defensive posture in the strategic sense may well necessitate an offensive posture at the tactical level (and vice versa). Such was indeed the case with ABDA naval⁷⁴ forces defending Java in December 1941. The general strategic policy for the ABDACOM area in late December of that year was:

73. (Emphasis added.) Frank Uhlig, Jr., "Naval Tactics: Examples and Analogies," Naval War College Review, Vol. 34 (March-April 1981), p. 92.

74. ABDA stood for American-British-Dutch-Australian. The command, designated ABDACOM, was given to British Lieutenant General Sir Archibald Wavell on 28 December 1941 (he did not take formal command until 15 January 1942). His authority was limited, moreover, to the "effective coordination of forces." Though he was in command of all forces in the area, "afloat, ashore and in the air," he was permitted to exercise that control only through subordinate commanders whom he could not relieve. Morton, Strategy and Command: The First Two Years, pp. 161-162.

- (a) to hold Malaya barrier defined as the line Malaya Peninsula, Sumatra, Java, North Australia, as the basic defensive position of the ABDA Area and to operate sea, land and air forces in as great depth as possible forward of this barrier in order to oppose a Japanese southward advance;
- (b) to hold Burma and Australia as essential support positions for the area and Burma as essential to the support of China and to the defense of India;
- (c) to re-establish communications through the Dutch East Indies with Luzon to support the Philippines garrison;
- (d) to maintain essential communications within the area.⁷⁵

However, from the beginning it was evident that the available forces were insufficient to do more than, at best, hold their own, despite instructions to "take the offensive at the earliest opportunity and ultimately to conduct an allout offensive against Japan."⁷⁶ Thus, largely as a strategic delaying tactic, the ships of the Allied navies in the Dutch East Indies were tasked with continually striking against Japanese invasion forces entering the ABDA Area, in an effort to slow them down.

Japanese forces landed on British (North) Borneo on 16 December 1941 and advanced in stages along the coast. Following the occupations of Davao in the Southern Philippines and Jolo Island in the Sulu Archipelago, a second Japanese force occupied Tarakan in Dutch (South) Borneo on 11 January

75. Quoted in G. Herman Gill, Royal Australian Navy 1939-1942 (Canberra: Australian War Memorial, 1957), p. 516.

76. ABC-4/5, Directive for the Supreme Commander, 2 January 1942; quoted in Morton, Strategy and Command: The First Two Years, p. 163.

1942 and advanced along the southern coast. Simultaneously with the move on Tarakan, Japanese navy forces invaded the Celibes. These operations furnished the Japanese with control over vital oil-producing areas and provided them with forward bases for their movements southward on Java, a central point (as it turned out) of the ABDA defensive line.⁷⁷

By mid-February 1942, ABDA naval forces -- and particularly the Combined Striking Force commanded by Dutch Rear Admiral K.W.F.M. Doorman -- were being rapidly worn down and worn out by continuing but largely ineffectual attacks on the Japanese invasion forces off Bali (Samuel Eliot Morison remarked: "[I]t must be observed that some of the Netherlands naval commanders in the Indies had not learned the basic lesson that defense is impractical without an offensive posture."),⁷⁸ by the effects of Japanese bombing and by ship groundings, not uncommon in these inadequately-charted waters. While the ABDA position was looking more and more forlorn, the Japanese position loomed ever stronger. As a February 1942 Australian intelligence appreciation noted:

The Japanese advance has been maintained and their success in all these operations has been due in the main to numerical superiority but their careful and successfully planned operations have never been

77. Japanese Operations In The Southwest Pacific Area, pp. 75, 78. This volume contains an excellent double-page map of Japanese operations in the Southern area -- "Southern Operations, December 1941 - May 1942," pp. 76-77.
78. Samuel Eliot Morison, The Rising Sun in the Pacific 1931-April 1941, History of United States Naval Operations In World War II -- Volume III (Boston: Little, Brown and Company, 1948), p. 310.

seriously interrupted. Their advanced positions now extend in a semicircle from Thailand to New Britain behind which is a network of major, secondary and advanced operational bases -- military, naval, and air....Further, they have achieved a position which is the inner arc of a circle of attack, while our weaker defending forces now hold only the longer and more difficult system of aerial communication.⁷⁹

On 20 February 1942, the Combined Chiefs of Staff in Washington informed General Wavell, ABDA Supreme Commander, that Java had to be held with the utmost resolution -- there was to be "no surrender."⁸⁰ Accordingly, when word came that same day that the Japanese were concentrating a large force of ships at Jolo (obviously in preparation for an invasion of Java), Dutch Vice Admiral C.E.L. Helfrich, the senior ABDA naval commander⁸¹ decided to split his available surface naval forces into two striking groups (eastern and western) until Japanese invasion plans became clear.

Thus it came about that on the afternoon of 26 February 1942 Admiral Doorman's Eastern Striking Force, consisting of two heavy cruisers, three light cruisers and nine destroyers, was ordered to attack and destroy a Japanese invasion convoy that had been sighted heading for the eastern end of

79. Director of Combined Operations and Intelligence Centre (COIC), "Appreciation on Japanese Strategy," 8 February 1942; quoted in Gill, Royal Australian Navy 1939-1942, note, p. 531.

80. Gill, *Ibid.*, p. 597.

81. American Admiral Thomas C. Hart, previously the senior ABDA naval commander, had been directed relieved of operational control by the Combined Chiefs of Staff on 12 February 1942. See Morison, Rising Sun in the Pacific, pp. 311-313.

Java.⁸² After a fruitless night of searching, Doorman's force was provided with the exact position of the convoy in the early afternoon of 27 February. Following an intentional delay, Doorman sailed out of Surabaya harbor to engage Japanese naval forces -- which, unknown to Doorman, were of only slightly larger size⁸³ -- in what turned out to be a costly (for the ABDA force) seven hour long, off-and-on battle that left Doorman's force with five ships sunk, including the light cruiser flagship De Ruyter (together with its commander) and the other participating Dutch light cruiser, Java, and the British heavy cruiser Exeter seriously damaged. All this at a cost of only one seriously-damaged Japanese destroyer. Less than two days later, the three remaining cruisers from Doorman's force and two of the remaining destroyers were sunk by Japanese forces shortly after leaving Surabaya harbor in a vain attempt to escape their fate.

Ironically, this blood-letting in the Battle of the Java Sea delayed the Japanese invasion of Java by only twenty-four hours. Forced by overall military inferiority to go on the strategic defensive, the ABDA naval forces had pursued a

82. Admiral Helfrich's order read "PURSUE ATTACK UNTIL YOU HAVE DEMOLISHED JAPANESE FORCE." Quoted in John Costello, The Pacific War (New York: Rawson, Wade Publishers, Inc., 1981), p. 206.

83. One of Doorman's destroyers was unable to catch up with the rest of the force, leaving 14 Allied ships to oppose three Japanese forces totalling 18 ships (two heavy cruisers, two light cruisers and fourteen destroyers). These ship counts were derived from Paul S. Dull, A Battle History of the Imperial Japanese Navy (1941-1945) (Annapolis: Naval Institute Press, 1978), track chart, p. 77 and Japanese Invasion Force and ABDA Combined Strike Force composition lists, pp. 92-93.

courageous but ultimately ineffective tactical offensive designed to slow down the pace of Japan's conquests. That this Navy was found wanting in the end neither reduced the strategic necessity for its fight nor served to denigrate the individual efforts of the ships in its multi-national fleet.

Clearly, there are also instances when the forsaking of a required tactical stance for its opposite has resulted not only in tactical defeat but has come close to causing operational or strategic disaster. For the U.S. Navy, the most obvious example of this was Admiral Halsey's actions at the Second Battle of the Philippine Sea,⁸⁴ a part of the overall battle for Leyte Gulf in October 1944. Because of the circumstances involved, this battle is worth a fairly detailed examination.

To set the scene, by mid-1944, U.S. military and naval forces were preparing to pierce Japan's inner defense zone -- the area bounded by the Japanese Home Islands, the Ryukyus, Formosa and the Philippines -- by invading Leyte in the Philippines. Japanese Imperial General Headquarters, only too aware of the looming threat to Japan's inner defense line and determined to thwart the successful invasion of any part of this vital zone, began drawing up basic plans for decisive battle operations oriented toward each of these targets. The Imperial Japanese Navy's part in these operations was dictated by the belief of the Navy High Command that if the enemy succeeded in occupying any of these inner territories it would

84. This action is also known as the Battle off Samar.

open the Fleet up to logistical starvation and eventual annihilation. Accordingly, the Navy Section of the Imperial General Headquarters determined that the full remaining strength of the Fleet should be risked in bold offensive action in the hopes of achieving a decisive victory over the enemy's invading forces.⁸⁵

By the latter part of July 1944, the basic plans for the Sho-Go ("victory") operations had been completed: Sho Operation No. 1 -- defense of the Philippines -- was to be ready for implementation by the end of August 1944; Sho Operation No. 2 -- defense of Formosa and the Ryukyus -- also at the end of August; Sho Operation No. 3 -- defense of the Home Islands, excluding Hokkaido -- the end of October 1944; and Sho Operation No. 4 -- defense of Northeastern area -- also at the end of October.⁸⁶ On 21 July 1944, the Navy Section of Imperial General Headquarters issued a directive outlining the "naval policy for urgent operations." It stated:

I. Operational Policy:

- a. The Imperial Navy will endeavor to maintain and make advantageous use of the strategic status quo; make plans to smash the enemy's strength; take the initiative in creating favorable tactical opportunities, or seize the opportunity as it

85. For a useful discussion of these factors, see Japanese Operations In The Southwest Pacific Area, pp. 319-322.

86. Imperial General Headquarters Army High Command Record; Ibid., p. 323.

presents itself, to crush the enemy fleet and attacking forces.⁸⁷

And on 1 August 1944, the Combined Fleet issued an operations order which laid out the general missions of the naval forces in the Sho-Go Operations as follows:

1. Operational Policy:

a. The Combined Fleet will cooperate with the Army according to the operational procedures specified by Imperial General Headquarters for the Sho-Go Operations in order to intercept and destroy the invading enemy in decisive battle at sea and to maintain a impregnable strategical position.

2. Outline of Operations:

b. Operations:

(1) Enemy aircraft carriers will be destroyed first by concentrated attacks of the base air forces.

(2) Transport convoys will be destroyed jointly by the surface and air forces. If the enemy succeeds in landing, transports carrying reinforcements and the troops already on land will be the principal targets so as to annihilate them at the beachhead.

(3) Surface forces will sortie against the enemy landing point within two days after the enemy begins landing. All-out air attacks will be

87. Daikaishi Dai Yonhyakusanjuichi-go (Imperial General Headquarters Navy Directive No. 431), 21 July 1944; quoted in Ibid., p. 328. A new directive was issued on 26 July which fitted this outline naval policy into the framework of the Sho-Go Operations plan.

launched two days prior to the attack by the surface forces.⁸⁸

As the weeks went by and the expected enemy invasion failed to materialize as early as had been expected, the Japanese High Command became more and more convinced that when it did come, the Philippines would be the target. Accordingly, Japanese forces in the Philippines were reinforced. This Japanese belief was further strengthened when American carrier aircraft began hitting targets in the southern and central Philippines in early September 1944. Finally, on 20 October 1944, units of the American Sixth Army began landing on Leyte, backed up by the largest grouping of assault craft and warships ever concentrated in the Pacific, which were now occupying Leyte Gulf and contiguous waters.⁸⁹ The Japanese Sho Operation No. 1 was already unfolding.

The Japanese naval operational plan was a complex one, involving five groups of ships arriving from several different directions and operating together to catch the American invasion force in a pincer movement. As Paul Dull explained:

The Japanese plan of battle called for Admiral Ozawa's Mobile Force, whose carriers had almost no

88. Combined Fleet Top Secret Operations Order No. 83, 1 August 1944 -- paraphrased portions reconstructed from a variety of sources, including Combined Fleet Top Secret Operations Order No. 84, same date; quoted in Ibid., p. 329.
89. Three small islands which guarded the eastern approaches to Leyte Gulf were occupied on 17 October, alerting the Japanese to the general site of the invasion.

planes left [the bulk of those aboard were to be flown at the proper time to Philippine airfields for operating from shore], to "drag its cape" before Task Force 38; Japanese intelligence guessed that Admiral "Bull" Halsey would come charging after the carrier force, which would clear the carrier planes from Admiral Kurita's ships. Then Kurita's First Strike Force, Forces A and B, would form the north arm of a pincers movement coming through San Bernardino Strait against the invasion transports. Group C, under Admiral Nishimura, joined by the Second Strike Force of Admiral Shima, would form the southern arms, coming through Surigao Strait to join Kurita. All depended upon Fukudome's providing the Leyte fleets with air cover, and on the absence of Task Force 38. The objective was to get at the transports, break up the invasion, and sink U.S. ships.⁹⁰

As it turned out, the plan did not unfold as projected. Steaming up through the waters of the Palawan Passage, Kurita's First Strike Force lost three heavy cruisers (two sunk, one escorted back toward Borneo) to U.S. submarines Darter and Dace on 23 October and then the next day was battered by carrier aircraft from Task Force 38 in the Battle of the Sibuyan Sea, losing the battleship Musashi in the process. Nishimura's Force C, consisting of two older battleships, a heavy cruiser and four destroyers, was almost completely annihilated in a text-book engagement -- the Battle of Surigao Strait -- in the early morning of 25 October by the six old battleships, eight cruisers and 21 destroyers of Rear Admiral Jesse Oldendorf's Seventh Fleet Bombardment and Fire

90. Dull, Battle History of the Imperial Japanese Navy, p. 315. The fifth group of ships was the Transport Unit, detailed to land a small number of troops on the west side of Leyte.

Support Group.⁹¹ And Shima's Second Strike Force, trailing Nishimura by some 40 miles, reversed course and retired shortly after Shima's Flagship, Nachi, collided with the burning heavy cruiser Mogami from Nishimura's Force C. Shima saw no need in sending his own ships further into the obvious death zone which Surigao Strait had suddenly become. Shima's retreat was then harried, but to little effect, by cruisers and destroyers from Oldendorf's force and, later in the morning, by carrier air strikes launched from the southermost of the Seventh Fleet's escort carrier groups; though the latter attacks finally did fatally injure Nishimura's already-wounded Mogami, which was then accompanying Shima's retiring force. Thus, the stage was set for Halsey's actions at the Second Battle of the Philippine Sea.

The U.S. naval chain of command at Leyte was divided. To the northeast of Leyte, operating off Samar, was Admiral Bill Halsey's Third Fleet, containing the fast carriers of Task Force 38. Third Fleet was tasked with covering the San Bernardino Strait (between Samar and Luzon) and the northern and eastern approaches to Leyte Gulf. Halsey's immediate superior was Admiral Nimitz, CINCPAC/CINCPOA, in Hawaii.

91. In addition to Paul Dull's short but very accurate account (from the Japanese side) of the Battle for Leyte Gulf (pp. 313-331), good accounts of the 23-25 October actions with somewhat more color and detail are to be found in Potter and Nimitz, Sea Power, pp. 777-795; and Costello, The Pacific War, pp. 503-518; and, of course, Samuel Eliot Morison's always interesting narrative account can be found in Volume XII of his History of United States Naval Operations In World War II.

South of Third Fleet was Admiral Thomas Kinkaid's Seventh Fleet, tasked with covering the western and southern approaches to Leyte Gulf and with furnishing close air support for the invading troops. Kinkaid's immediate superior was General Douglas MacArthur, Southwest Pacific Commander (CINCSWPA) and overall commander for the Leyte invasion.

Because the moving ahead of the invasion timetable by two months had outdistanced land-based Army Air, MacArthur's invasion forces were highly dependent upon the Navy's carrier air for extended support of operations on Leyte until airfields could be constructed and the Army's air units staged forward. Accordingly, MacArthur was concerned that he be able to retain the airpower represented by Halsey's Task Force 38 as long as necessary, particularly to protect his landing sites and transport fleet from Japanese naval and air attack. Indeed, Nimitz's operation plan had directed Halsey to "cover and support forces of the Southwest Pacific."⁹² Halsey, however, did not relish the defensive task his fleet had been given and he sought an early release of his forces in order to conduct offensive operations. In this wish he was supported by the somewhat ambiguous wording of the CINCPAC Operation Plan which also stated: "In case opportunity for destruction of the enemy fleet offer or can be created, such destruction becomes the primary task."⁹³ Therefore, as Admiral Halsey later asserted, the Third Fleet's job was an offensive one.

92. CINCPAC Operation Plan No. 8-44, 27 September 1944; quoted in Potter and Nimitz, *ibid.*, p. 782.

93. *Ibid.*

On 21 October 1944, the day after the Sixth Army's initial landings on Leyte, Halsey sent a radio message to MacArthur broaching the possibility of freeing his forces from covering the landings. It read: "My present operations in strategic position to meet threat of enemy fleet forces are somewhat restricted by necessity of covering your transports and other overseas movements; request early advice regarding withdrawal of such units to safe position, which will permit me to execute orderly rearming program for my groups and allow further offensive operations."⁹⁴ MacArthur, however, was worried that if one of the advancing Japanese naval thrusts got into Leyte Gulf it could jeopardize the whole Philippine invasion. Accordingly, he restated his position to Halsey, who was not, of course, a direct subordinate. MacArthur's radio message said:

The basic plan for this operation in which for the first time I have moved beyond my own land-based air cover was predicated upon full support by the Third Fleet; such cover is being expedited by every possible measure, but until accomplished our mass of shipping is subject to enemy air and surface raiding during this critical period;...consider your mission to cover this operation is essential and paramount....⁹⁵

94. COM3rdFLT Radio to CINCSWPA et al., 21 October 1944, SOPAC No. 537, C/S GHQ, (TS); quoted in Reports of General MacArthur, Volume I: The Campaigns of MacArthur In the Pacific (Prepared By His General Staff) (Washington, D.C.: Department of the Army, 1966), note, p. 218.
95. (Emphasis added.) CINCSWPA Radio to COM3rdFLT et. al., 21 October 1944, SOPAC No. 538, C/S GHQ, (S); quoted in Ibid., p. 218.

All during the day of 24 October, Halsey's carrier aircraft battered the First Strike Force of Admiral Kurita, in the Battle of the Sibuyan Sea. Because of overly optimistic reports from his returning carrier pilots and an initial decision by Admiral Kurita (soon reversed) to turn his ships around,⁹⁶ Halsey became convinced that the Japanese central force had been so badly hurt that it was retiring and that, given the badly weakened condition of Kurita's force, if a further threat did develop from Kurita it could now be handled by Kinkad's forces. Vice Admiral (then Rear Admiral) Jerry Bogan, one of Task Force 38's four carrier task group commanders at Leyte Gulf, recalled:

We were off - four groups, Sherman [sic - Rear Admiral Frederick C. Sherman] and the Lexington, [Task Group] 38.3, was up north. Davison [Rear Admiral Ralph E. Davison] was well south, and McCain [Vice Admiral John S. McCain - father of the John McCain who was CINCPAC during the latter part of the Vietnam War] had just started back to Ulithi to refuel and resupply. We sent this scouting force, armed scouting force, to the west about 7:30 in the morning, and about 9:30 saw this central force under

96. Kurita reversed course and requested permission to retire temporarily until the Japanese land-based air cover promised him was provided. Permission to retire was denied by Admiral Toyoda, Commander in Chief of the Combined Fleet. Toyoda recalled: "The situation was that, on the afternoon of the 24th, the Second Fleet suffered considerable damage from your air force, so they started to turn back while in the Strait. Thereupon I sent an order from the Combined Fleet worded something like this: 'Advance counting on Divine Assistance.' The meaning of that order was, while it does not appear in the wording of the orders, that damage could not be limited or reduced by turning back, so advance even though the fleet should be completely lost. That was my feeling when sending that order;...." Interrogation NAV No. 75 USSBS No. 378; USSBS, Interrogations of Japanese Officials, Volume II, p. 317. Kurita subsequently turned his force back toward the enemy.

Admiral Kurita which had already lost two cruisers to submarines, the Dace and the Darter, the day before off Palawan. Then Davison was called north, although he didn't join in time, and my group made several attacks throughout the day, as this central force came back and around through the Sibuyan Sea. Admiral Sherman's group, 38.3, also sent one very heavy attack at about 3 o'clock, and I don't know whether it was a result of that or cumulative effects from previous attacks, which caused the Mushashi, a sister ship of the Yamato, to slow down and the rest of the force then turned around for a few minutes to cover her. Halsey got that report and thought they were retreating.⁹⁷

Late in the afternoon of the 24th, Mitscher's scouting aircraft located Admiral Ozawa's aircraft carriers, which Halsey had been expecting would participate in the ongoing contest over Leyte Gulf -- some 190 miles to the north north east of Third Fleet's position. Completely unaware that these "toothless" carriers of the Mobile Force were a diversion, designed by the Japanese to lure him away from the San Bernardino Strait and thus free Kurita's surface forces to attack the unprotected invasion transports, Halsey determined that they were an important target worthy of his entire fighting effort.

Earlier in the afternoon when the fate of Kurita's First Strike Force seemed still in doubt, Halsey had issued a preparatory message to his subordinate commanders informing them that four (of six) battleships (including New Jersey, his flagship), three heavy cruisers, three light cruisers and 14

97. Commander Etta-Belle Kitchen, The Reminiscences of Vice Admiral Gerald J. Bogan U.S. Navy (Retired) (Annapolis, Md.: U.S. Naval Institute 1970), pp. 1-83 - 1-84. This is a transcript of a tape recorded interview with Admiral Bogan made on October 25, 1969.

destroyers from Bogan's and Davison's task groups "will be formed as Task Force 34" under Vice Admiral Willis Lee, intending to accomplish such action only if a surface engagement began shaping up.⁹⁸ Although not an addressee, Admiral Kinkaid intercepted this preparatory message and, failing to intercept further messages from Third Fleet which qualified it, read it as an executive message -- he took it to mean that Task Force 34 had been formed. Admiral Bogan remarked: "Kinkaid misinterpreted a dispatch from Halsey, a dispatch that said, 'Be prepared to form Task Force 34,' and Kinkaid assumed that Task Force 34 had been formed, which, of course, it wasn't because it was a preparatory message, not an executive message."⁹⁹ This mistake was to play a part in the unfolding of the subsequent battle.

In pondering what to do about this new and tempting Japanese target, Admiral Halsey weighed several alternative courses of action. As he later explained his reasoning:

1. I could guard San Bernardino with my whole fleet and wait for the Northern Force [Ozawa's carriers] to strike me. Rejected. It yielded to the enemy the double initiative of his carriers and his fields on Luzon and would allow him to use them unmolested.
2. I could guard San Bernardino with TF 34 [Lee's projected battleship and cruiser force] while I struck the Northern Force with my carriers. Rejected. The enemy's potential surface and air strength forbade half-measures; if his shore-based planes joined his carrier planes, together they might inflict far more damage on my half-fleets separately than they could inflict on the fleet intact.
3. I could leave San Bernardino unguarded and strike the Northern Force with my whole fleet.

98. See the discussion of this point in Potter and Nimitz, Sea Power, p. 783.

99. Reminiscences of Vice Admiral Bogan, p. 1-87.

Accepted. It preserved my fleet's integrity, it left the initiative with me, and it promised the greatest possibility of surprise. Even if the Central Force meanwhile penetrated San Bernardino and headed for Leyte Gulf, it could hope only to harry the landing operation. It could not consolidate any advantage, because no transports accompanied it and no supply ships. It could merely hit and run.¹⁰⁰

Having convinced himself that what he wanted to do anyway -- assume the tactical offensive -- was the right course of action, Halsey ordered his entire available force north after Ozawa's decoy force, leaving the San Bernardino Strait completely unprotected. In notifying Seventh Fleet and others present of the position of Kurita's Central Force, Halsey also messaged that he was "proceeding north with three groups to attack the enemy carriers at dawn."¹⁰¹ Admiral Kinkaid was unperturbed by this message, however, since he believed that the as-yet-unformed Task Force 34 had been left guarding the Strait.

Jerry Bogan believed, at the time, that chasing after the Japanese carriers with the whole force was unwise. He recalled:

In my group was the Independence, which carried a night group, and we kept surveillance over the central force [of Admiral Kurita] until about 11 o'clock [p.m.], when we were too far away to do it any more. Meantime, Halsey had ordered all three groups, Davison, Sherman, and myself, north at 25

100. Fleet Admiral William F. Halsey, USN and J. Bryan, III, Admiral Halsey's Story (New York: McGraw-Hill Book Company, Inc., 1947), pp. 216-217.

101. COM7THFLT Report, p. 25; quoted in Campaigns of MacArthur In The Pacific, p. 215. This is a slight paraphrase of the original dispatch. The verbatim text is quoted in Potter and Nimitz, Sea Power, p. 784.

knots to attack what turned out to be a decoy force. There were [it turned out] 17 ships in it, and we had 68. I then talked to Captain Ewen in the Independence and he said that they [Kurita's ships] were on a course of 060 and were coming out through San Bernardino Strait, and navigation lights in the Strait were turned on for the first time.¹⁰²

Bogan was convinced that Kurita had indeed reversed course and was coming back out to attack. He said: "Eddy Outlaw and Bob Pirie [who in 1958, as a Vice Admiral, became DCNO (Air)] and I discussed this thing for 45 minutes, and because I didn't think that the message that Eddy Ewen, the skipper of the Independence, sent out was sufficiently strong to alarm Halsey to all the implications, I called Eddy on the TBS myself, just as you and I are sitting here, and he said, "Yes. They're on course 060, navigational lights are on, there're [sic] coming out through the San Bernardino Strait."¹⁰³

Because of his concern, Admiral Bogan drafted a message to send to Halsey, requesting that part of the Third Fleet be left behind to cover the Strait. Bogan said:

I thought that Admiral Halsey was making one hell of a mistake. I had this message all ready to send him saying, "Recommend Form Leo, " which was Task Force 34, [and] "leave my group in support [of it] and let the other two groups handle the northern

102. Reminiscences of Vice Admiral Bogan, p. 1-84.

103. Ibid., p. 1-88.

force."¹⁰⁴ But when I told him about the [navigation] light business somebody on his staff said, "Yes, yes, we have that information." That was a brush off, as far as I was concerned and I wasn't going to say any more. ...Arleigh Burke, Mitscher's Chief of Staff, tried to get him to recommend something to Halsey, but Mitscher who felt the tactical command had been taken away from him, said, "If he wants plans or information from me he'll ask for it.["] He did nothing.¹⁰⁵

Ironically, the surprise attack that Halsey had been planning for Ozawa's carriers did not materialize. As Admiral Bogan remembered: "[A]bout two o'clock in the morning, Admiral Halsey ordered a search made from the Independence in my group for these ships. Admiral Mitscher protested, saying that he thought that if the planes got up in the air the Japanese radar would discover them and [they would] change course. Halsey said, 'Launch the search.' The search was launched, the Japs did discover them in the air, and did change course, and instead of this gun duel which Halsey had envisioned early in the morning, it was nearly 8:30 [a.m.] before we could catch them with planes."¹⁰⁶

At 0412 on the morning of 25 October, Admiral Kinkaid informed Third Fleet by radio that his forces were engaging

104. The carriers in Ozawa's deception force consisted of just one fleet carrier, three light carriers and two converted battleships with flight decks aft, which had never been used as carriers before. Task Force 38, at this time, contained a total of 16 fast carriers (a 17th--Princeton from Sherman's task group--had been sunk [on orders of the task group commander] earlier that afternoon as the result of damage sustained in a Japanese air strike), although McCain's carrier task group also was out of the fight and headed for Ulithi to refuel.

105. Reminiscences of Vice Admiral Bogan, pp. 1-84 - 1-85.

106. (Emphasis added.) Ibid., p. 1-85.

enemy surface forces [Nishimura's Force C] in Surigao Strait. He also added a question, "Is TF 34 guarding San Bernardino Strait?"¹⁰⁷ Because of radio communications problems, Halsey did not receive the message until 0648. Halsey's reply was sent at 0704: "Your 241912 [Kinkaid's message] negative. Task Force 34 [which had finally been formed just after 0200, but for the different purpose of helping to dispatch Ozawa's carriers] is with carrier group now engaging enemy carrier force."¹⁰⁸ Kinkaid was dumbfounded, to say the least. Halsey received word at 0800 that the Japanese southern force had been repulsed at Surigao Strait. But only twenty minutes later (this message too had been delayed in reaching him)¹⁰⁹ he received the first radio call for help from Rear Admiral Clifton A.F. Sprague, commanding Taffy 3, the northernmost of Seventh Fleet's three escort carrier groups (TG 77.4) supporting the invasion. Halsey's fleet was then some 300 miles to the north of Sprague's position.

Admiral Kurita's First Strike Force, now consisting of four battleships (including the Yamato -- the most powerful

107. COM7THFLT Report, p. 25; quoted in Campaigns of MacArthur In The Pacific, p. 217.

108. Ibid., Of course, Halsey's comment about TF 34 being "with carrier group now engaging enemy carrier force" was premature. The first American carrier strike groups arrived in the vicinity of Ozawa's force shortly after 0830.

109. Sprague's request for urgent assistance was dispatched in plain language at 0701. It was received by Kinkaid at 0724 and a dispatch requesting immediate aid was then transmitted to Halsey by Kinkaid. This second dispatch was not received until 0922. COM7THFLT Report, p. 27; cited in Ibid., pp. 219-221.

battleship afloat), six heavy cruisers, two light cruisers and 11 destroyers, had emerged from San Bernardino Strait at about 2445 on 25 October and headed eastward into the Philippine Sea.¹¹⁰ At 0649 Kurita's ships spotted the escort carriers and destroyers of Sprague's CVE group operating in waters off Samar. In the overcast, hazy morning light this small force was taken by Kurita to be the fast carrier task force of Halsey's fleet. Within a few minutes thereafter, he had radioed Combined Fleet Headquarters: "BY HEAVEN-SENT OPPORTUNITY WE ARE DASHING TO ATTACK ENEMY CARRIERS. OUR FIRST OBJECTIVE IS TO DESTROY THE FLIGHT DECKS AND THEN THE TASK FORCE."¹¹¹ At 0652 an advance was ordered to 24 knots, and at 0653 the column was turned east to attack at the head of the enemy ships. The order to open fire with front turrets was given by Kurita at 0658, and five minutes later, the order to start the attack was passed on to the battle force. The Yamato's 18-inch guns were the first to fire. The first indication Taffy 3 had that it was under attack was when 14-, 16- and 18-inch shells began splashing around the six escort carriers and their accompanying destroyers and DEs.

110. This and the following formation in this paragraph and several subsequent ones, unless otherwise noted, was compiled from accounts in Potter and Nimitz, Sea Power, pp. 785, 790-793; Dull, Battle History of the Imperial Japanese Navy, pp. 322-327; Costello, The Pacific War, pp. 512-518; Campaigns Of MacArthur In The Pacific, pp. 216-223; entry for 10 October-30 November - "Occupation of Leyte" in United States Naval Aviation 1910-1980, pp. 136-127; and Halsey and Bryan, Admiral Halsey's Story, particularly pp. 219-220.

111. Quoted in Costello, *Ibid.*, p. 512.

When Halsey received Sprague's call for immediate aid at 0820 his first reaction was to ignore it. He said later: "I figured that the sixteen little carriers [in TG 77.4] had enough planes to protect themselves until Oldendorf could bring up his heavy ships."¹¹² Neither assumption was accurate, as it turned out. Because of their close air support role, the CVEs had no armor-piercing bombs aboard and no very large supply of torpedoes. What they had the most of were fragmentation bombs and depth charges -- neither of which could do much to the enemy's heavily armored ships. While as for Oldendorf's force (which Kinkaid had alerted for action with his 0725 message), the sustained shooting match in Surigao Strait just hours before had managed to shoot up most of the battleships' and cruisers' armor-piercing projectiles and expend most of the force's torpedoes. At about 0830 Halsey received a priority dispatch from Kinkaid: "Urgently need fast BBs Leyte Gulf at once." Meanwhile, Task Force 34 still attached, the Third Fleet steamed northward after Ozawa's carrier force. At 0922 Halsey was handed Kinkaid's first dispatch which had been sent out almost two hours before. It read, "Under attack by cruisers and battleships...request immediate air strikes. Also request support by heavy ships. My OBBs [old battleships -- Oldendorf's force] low in ammunition."¹¹³ Shortly thereafter, Halsey radioed Admiral McCain's task group, which

112. Quoted in Potter and Nimitz, Ibid., p. 788.

113. Halsey and Bryan, p. 220.

was refueling to the southeast of Leyte, to go "at best possible speed" to the aid of Sprague's escort carrier force and he notified Kinkaid of this action. The rest of Third Fleet continued steaming north away from Kurita's fight, however. At about 1000 Halsey received a third message from Kinkaid, transmitted in the clear: "Where is Lee? Send Lee."¹¹⁴

However, it was not until a message arrived from CINCPAC, Admiral Nimitz, that Bill Halsey was brought up short and made to realize that he had better do something serious about Kinkaid's predicament. Potter and Nimitz remarked about this message:

When Nimitz' message came off the machine, the padding [added routinely to increase the difficulty of enemy cryptanalysis] was plainly separated from the text by double letters, as regulations prescribed. But the end padding was so plausible that the communicators decided not to remove it, on the chance that [it] might be part of the message. The strip of paper handed Halsey read as follows: "FROM CINCPAC [Nimitz] ACTION COM THIRD FLEET [Halsey] INFO COMINCH [King] CTF SEVENTY SEVEN [Kinkaid] X WHERE IS RPT WHERE IS TASK FORCE THIRTY FOUR RR THE WORLD WONDERS."¹¹⁵

This message, with its added emphasis provided by the extraneous but apt padding, served to deeply anger Admiral Halsey. It had arrived just at a time when he felt his Fleet was on the verge of annihilating Ozawa's force. The carriers of Task Force 38 had already delivered two air strikes on the

114. Ibid.

115. Potter and Nimitz, note, p. 789.

Japanese force, and Task Force 34's battleships were only 60 miles from the Japanese ships. Admiral Bogan recalled:

And about 10:30, after the second strike, when the thing was practically over, we had sunk all three carriers [sic - four carriers were eventually sunk but the last one didn't go down until about 1647]. Admiral Nimitz sent this message to Admiral Halsey, "Where is Task Force 34," and there was a little padding on the end which some kid had put on, "All the world wants to know." And that just turned Halsey on his ear. "G--[Goddammit], why is Nimitz sending me a message like that?"¹¹⁶

Thus, just before 1100, Halsey made a fateful decision (which he continued to regret having made for the rest of his life) -- he ordered Lee's TF 34 to reverse course from directly north to directly south, in order to head back toward Leyte Gulf. This was accomplished at about 1115, and, shortly thereafter, TF 34 joined up with Jerry Bogan's Task Group 38.2 for purposes of adding air cover -- leaving Davison's and Sherman's task groups and an attached surface group of cruisers and destroyers to finish off Ozawa. Bogan remarked: "So at 11:30, we formed Task Force 34 with my group in support and started back to the Philippines at full 28 knots, refueling destroyers at 14 knots until they were filled. Of course, Kurita had knocked off that action about noon and had gone west again... ." ¹¹⁷

All in all, Halsey had been extremely lucky. Because of a variety of factors -- less than great Japanese shooting, adroit shiphandling by the skippers of Taffy 3's carriers,

116. Reminiscences of Vice Admiral Bogan, p. 1-85.

117. Ibid., pp. 1-85 - 1-86.

courageous attacks on the Japanese by the ships of Sprague's screen, poor visibility, fortuitous rain squalls, the luck of battle and, finally, irresolution on the part of Admiral Kurita -- the cost for Halsey's negligence had been far less than it should have been.¹¹⁸ Taffy 3 had lost only one CVE (Gambier Bay), two destroyers and a destroyer escort to enemy gunfire from Kurita's force. However, attacks on Clifton Sprague's task group by Kamikaze aircraft,¹¹⁹ arriving after Kurita had broken off the action, managed to sink a second of his CVEs (St. Lo), and badly damage two others.¹²⁰ But more importantly, in addition to turning away from the battle with Sprague's escort carriers just when his force was on the verge of winning it, Kurita had compounded his error by failing to go after the American transports -- his primary objective. Indeed, if just a few things had gone differently for the Japanese during the

118. Admiral Sprague had summed it up thusly: "...the failure of the enemy main body and encircling light forces to completely wipe out all vessels of this Task Unit can be attributed to our successful smoke screen, our torpedo counter-attack, continuous harassment of the enemy by bomb, torpedo, and strafing attacks, timely maneuvers, and the definite partiality of Almighty God." Rear Admiral C.A.F. Sprague Report to COMINCH, Action Against the Japanese Main Body off Samar, 19 October 1944, G-3, GHQ, SWPA Journal(S); quoted in Campaigns Of MacArthur In The Pacific, p. 222.

119. 25 October 1944 marked the first successful planned Kamikaze attacks by Japanese forces.

120. Earlier that morning, Kamikaze attacks on the southernmost of the three escort groups had badly damaged two of its CVEs, while a Japanese submarine torpedoed a third during the ensuing confusion. On 29 October the escort groups were withdrawn from Leyte Gulf. Potter and Nimitz, Sea Power, pp. 792-793; and United States Naval Aviation 1910-1980, p. 137.

battle, it could have proved a disaster of major proportions for American plans for the invasion of the Philippines, and, under the circumstances, most of the blame would rightly have been placed at Bill Halsey's feet. Jerry Bogan summed it up: "Halsey had orders to aggressively support the landings at Leyte, and here was a big force coming through which was about to destroy those landings and he did not provide support."¹²¹ Bogan's big regret was that he hadn't been able to stay off San Bernardino Strait the night before. He remembered:

In other words, I wanted to form it [Task Force 34] the night before, [as] we were going north, and come back and stay out there with my carrier group in support, my task group in support, and let the six battleships and the cruisers, Task Force 34, handle these Japs coming through. It could have been a slaughter. It could have meant the end of Japanese naval power right there. Completely.¹²²

What are some of the aspects of Halsey's actions at the Second Battle of the Philippine Sea that are worth noting a second time? Two come to mind. First is the fatal lure which the tactical offensive held for Halsey at Leyte Gulf. Halsey, charged with a tactical defensive task of extreme importance -- protecting the invasion fleet in Leyte Gulf from expected major Japanese naval attacks -- decided to assume the tactical offensive for what he thought were overriding reasons but which in retrospect proved to be strictly secondary considerations. Even if Ozawa's carriers had been fully

121. Reminiscences of Vice Admiral Bogan, p. 1-86.

122. Ibid., p. 1-87.

armed, instead of being decoys, their destruction could not have been equated to a successful attack by Kurita on the Leyte transports -- the result of which could have delayed planned Philippine operations for months.

Second is the increasing inflexibility of Halsey's tactical thinking as the situation progressed. Having decided to ignore the strong objections to his impending actions that he knew were held by the senior commander for the Leyte operation (General MacArthur), who was not a direct superior and thus could not order him to remain in support, Halsey and his senior staff subsequently ignored intelligence indications (air surveillance indicating Kurita's renewed movement through the San Bernardino Strait) that seemed to challenge the direction in which his new course of action was taking him. Subsequently, because of his obsession with annihilating Ozawa's force, Halsey waited for more than an hour after receiving word that his help was needed urgently to rectify a battle situation resulting directly from his failure to carry through with his assigned task. And even then, his response was only a half-hearted one -- a situation that did not change until a message from his direct superior (Admiral Nimitz) indicated to him that he had better take the threat posed by Kurita seriously. And in the final weighing, his response proved to be both too little and too late.

The second major point to be discussed in this section is the vital influence which tactical autonomy and flexibility can have on the outcome of naval engagements. Historically,

fleets have been the beneficiary of tactical autonomy to a far greater degree than armies. It was not that somehow kings and emperors trusted their navies more to accomplish war aims without immediate supervision than they did their armies. Indeed, they often sought to interfere in naval matters either beyond their competence or their ability to control events. Napoleon, for example, was known for attempting to regulate from his headquarters "the most minute details" of his far-flung empire. His attempts to over-involve himself in the details of his Fleet eventually forced his Minister of Marine, Decrés, to write to him:

It is unfortunate for me that I know the profession of seaman, since that knowledge does not entitle me to any confidence. Frankly, Sire, my position is becoming too painful. I regret that I cannot persuade Your Majesty. I doubt that any man can. Prey, in matters pertaining to naval operations, form a council, an Admiralty, or any other body Your Majesty might approve of. I must state the truth: A Minister of Marine dominated by Your Majesty in naval matters serves you ill and is a nullity as far as the glory of your arms is concerned, if not actually harmful.¹²³

However, the nature of naval operations most often served to foil their inclinations. Where in the days before rapid communications, a king or emperor on the continent of Europe could accompany his army into battle or visit its forward positions and still remain close enough to events in his capitol to perform his other duties of state, such was not the case if embarked with his fleet. The transmission of messages

123. Quoted in Lieutenant Commander Charles Moran, U.S. Naval Reserve, "Trafalgar, The Death Knell of an Alliance," United States Naval Institute Proceedings Vol. 63 (November 1937), p. 1572.

to and from ships operating in the North Sea, the Atlantic Ocean or the Mediterranean (not to mention vessels in the Indies, elsewhere in the Americas, Africa and the Far East) took days, weeks and even months to arrive. So in those days, ship's captains and fleet commanders were often assured tactical autonomy by default. Thus, there arose, particularly in the British and American navies, a soon-to-become traditional assumption of autonomy of operations and independent initiative that has carried over to the present day in the thinking of naval officers and in a way which differs markedly from the thinking of most army officers. As Vice Admiral John Chew remarked some years ago:

I might say that that attitude within the Navy of relying on its subordinate commanders was viewed at times with a certain amount of alarm by the Army and the Air Force, who felt that there should have been tighter control from the central command post and reliance should not be placed on people in the field. This was the basic philosophy, I think that has always pervaded the Navy and possibly isn't true of the Army and the Air Force.¹²⁴

Nonetheless, by the late Nineteenth Century, increases in the rapidity of communications were beginning to lessen the independence even of naval officers at sea. No doubt many naval officers serving in fleets outside home waters during that period would gladly have echoed the strong feelings of the French General Peliissier toward the intolerable meddling imposed on his conduct of battle during the Crimean War by the

124. Dr. John T. Mason, Jr., Reminiscences of Vice Admiral John L. "Jack" Chew, U.S. Navy (Retired) (Annapolis, Md.: U.S. Naval Institute, 1979), p. 7/316. This is a transcript of taped interviews conducted with Admiral Chew in 1972 and 1973.

existence of the telegraph. As he wired Napoleon III: "Let Your Majesty free me from the restriction imposed on me or permit me to resign a command impossible to exercise...at the extremity, sometimes paralyzing, of an electric wire."¹²⁵

Of course, not all of the interference with their tactical authority experienced by naval commanders in the past century or so has come from leaders of state. Navy Departments and Admiralties too have found it tempting to use the availability of rapid communications to assert a measure of direct control over tactical operations.

During its participation in World War I, for example, the Navy Department insisted on making all decisions relating to the U.S. naval forces in European waters and directing in detail all military operations from Washington. In one case cited by Admiral Sims, a request was made by Sims to the Department in July 1917 that it supply a division of dreadnoughts (battleships) for use in European waters. The Department refused to comply with this request for four months, until after the CNO, Admiral W.S. Benson, had made a personal visit to London to see for himself if they were really needed. In a letter written to the Secretary of the Navy, Josephus Daniels, on 7 January 1920, Admiral Sims said of this incident:

...This is but one of a number of examples of a similar kind, and strikingly illustrates the nature of the delays caused by the Department's insistence upon trying to understand the intricate details of

125. Quoted in Vice-Admiral Sir Arthur Hezlet, K.B.E., C.B., D.S.O., D.S.C., Electronics And Sea Power (New York: Stein and Day, 1975), p. 6.

rapidly changing conditions 3,000 miles away. As it was of course a physical impossibility to keep the Department fully and accurately informed, and as the Department insisted upon making decisions concerning both the disposition and the actual operations of the European forces, the inevitable result was unsound decisions, and, in some cases, long delays before the Department was induced to accept the original recommendations that were based upon exhaustive discussions of the actual conditions with the heads of the allied navies.¹²⁶

During the investigation by the Senate Naval Affairs Committee into the Navy's preparation for and conduct of the war, Admiral Benson rather lamely defended his delay in sending the battleships to Europe. He testified: "In my position it was necessary for me to view the world situation; not only what was going on at the time but what might take place after the war was over...and I did not feel that I would be warranted in leaving our Navy in such a position that it could not look out for America's interests, unless the situation over there was very desperate."¹²⁷

And during the Second World War, British naval commanders operating under the chaotic conditions of fighting in Norway

126. Letter from Rear Admiral William S. Sims to Secretary of the Navy Josephus Daniels, 7 January 1920; quoted in Kittredge, Naval Lessons Of The Great War, p. 85.

127. (Emphasis added.) Testimony of Admiral W.S. Benson before the investigating subcommittee of the Senate Naval Affairs Committee, March 1920; quoted in Ibid., p. 333. A significant factor in Benson's wartime judgments was his basic antipathy for British interests and his feeling that Admiral Sims was siding too much with the British Admiralty's views. For information on this aspect of the problem, see David F. Trask, "William Shepard Benson 11 May 1915-25 September 1919," in Robert William Love, Jr., ed., The Chiefs of Naval Operations (Annapolis, MD: Naval Institute Press, 1980), particularly pp. 8-19.

found the Admiralty similarly disposed to interfere with the conduct of operations. Stephen Roskill remarked:

It will be plain to the reader of this brief account of the maritime operations carried out as part of the Norwegian campaign that the Admiralty frequently intervened directly in the operations of the Home Fleet. The diversion of the destroyers of 'Force WV' from the entrance to Vestfiord, the orders sent directly to Captain Warburton-Lee on his passage up the fiord to Narvik and the cancellation of Admiral Forbes' intended attack on Bergen are but three examples of a policy which was, in fact, constantly applied.¹²⁸

Fortunately, the U.S. Navy in World War II, though blessed(!) with a CNO of strong views and an even stronger disposition -- in the person of Ernie King -- did not have to face day-to-day

128. Captain S.W. Roskill, D.S.C., R.N., The War At Sea 1939-1945, Volume I: The Defensive (London: Her Majesty's Stationary Office, 1954), p. 201.

interference in tactical operations.¹²⁹ Whatever the demands for information and consultation which Admiral King placed on his Theater Commanders such as Admiral Nimitz, he was firm on the need for maintaining command initiative, witness a message he sent to CINCPAC in 1943:

Numerous instances have been brought to my notice where naval commanders of joint forces have prescribed the 'how' as well as the 'what' for detachments (large and small) of other services. Where this has occurred it has been done in violation of sound principles of command, joint

129. In January 1941, King, as Commander, Patrol Force (formerly the Atlantic Squadron), had issued a circular letter on exercise of command which stated: "1. I have been concerned for many years over the increasing tendency -- now grown almost to 'standard practice' -- of flag officers and other group commanders to issue orders and instructions in which their subordinates are told 'how' as well as 'what' to do to such an extent and in such detail that the 'Custom of the service' has virtually become the antithesis of that essential element of command -- 'initiative of subordinate.' ... 3. If subordinates are deprived -- as they now are -- of that training and experience which will enable them to act 'on their own' -- if they do not know, by constant practice, how to exercise 'initiative of the subordinates' -- if they are reluctant (afraid) to act because they are accustomed to detailed orders and instructions -- if they are not habituated to think, to judge, to decide and to act for themselves in their several echelons of command -- we shall be in sorry case when the time of 'active operations' arrives." Rear Admiral Ernest J. King, Commander, Patrol Force, Circular letter, 21 January 1941, Subject: "Exercise of Command--Excess of Detail in Orders and Instructions;" reprinted in Ernest J. King, Fleet Admiral, United States Navy and Walter Muir Whitehill, Fleet Admiral King: A Naval Record (New York: W.W. Norton & Company, Inc., 1952), p. 313. It should be noted that in the early months of the war in the Pacific, operations plans were drawn up in COMINCH Headquarters in Washington. However, by 1943, it had become apparent that appropriate decentralization of the planning function was both necessary and useful.

agreement, and I may,[sic] add, at variance with the well known convictions of Cominch.¹³⁰

In the post-World War II period, due in large part to the increased burdens of defense decision-making placed upon Presidents by the existence of a nuclear "balance of terror," tactical autonomy has receded substantially. Fears about conventional clashes lighting the fuzes of nuclear conflicts, when coupled with the technological capability of maintaining almost instantaneous communications with force commanders half a world away, have inclined Presidents toward ever increased monitoring of and/or interference with the tactical dispositions and operations of U.S. military forces. This "command meddling" by civilian authorities reached new heights during the Kennedy-Johnson years. As just one (early) example of this unnecessary interference, Admiral Robert Dennison, then CINCLANT, recalled a directive which had been sent to him during the Bay of Pigs invasion in 1961, ostensibly by the Chairman of the Joint Chiefs of Staff:

[I]t told me in great detail how many ships I was going to use, how many destroyers and all. And at the end, the last paragraph said, 'The Joint Chiefs of Staff interpret this to mean -- set up a safe haven,' which, of course, was pretty obvious. That's all they had to tell me. And so I called up [General Lyman] Lemnitzer [Chairman, Joint Chiefs of Staff] and I said, "I've gotten so many damn,

130. Paraphrase of the original message; quoted in "Unity of Command As It Functioned In The Pacific Ocean Areas In World War II," mimeographed document prepared by PubInfo Section of CinCPac-CinCPOA staff, October 1945, p. 10; Box 12, Radford Papers, Operational Archives, Naval Historical Center, Washington Navy Yard. As CINCPAC, Nimitz was responsible to King as COMINCH. As CINCPOA, Nimitz was responsible through COMINCH to the Joint Chiefs of Staff.

strange orders in my time but this one I wouldn't issue to a Captain of a couple of ships or ...[of] a small task group. This is an operation order telling me in minute detail what I should --how I should do something. And all I want to know is what you want done. And I never had an order that had to be interpreted by the guy that issued it." And he said, "What do you mean?" I says, "Well, the end of it says, 'The Joint Chiefs of Staff interpret this to mean...'" ...[H]e said, "Who do you think sent it?" And I said, "You did. It came from the Chairman of the Joint Chiefs of Staff." And he said, "Hell!" He said, "That was written and sent from 1600 Pennsylvania Avenue." I said, "Well, you can tell 1600 Pennsylvania Avenue that I understand what they want and I'll do it the way I think best."

That just goes to show you how...the damn thing [the Bay of Pigs invasion] was...run. It was just incredible.¹³¹

Of course, this sort of civilian interference continued during the Cuban Missile Crisis in 1962 and culminated in the military insanity of civilians picking bombing targets and directing the bomb loads to be employed during Operation Rolling Thunder in the Vietnam War. Admiral Dennison argued in regard to this matter: "But tactical control at a distance is a fatal error. And you cannot sit in the White House or you can't sit twenty miles away and try to control a guy in a cockpit of an airplane...This thing is...always the tendency of amateurs -- to try and control something from a distance and doing it in great detail."¹³²

Unfortunately, the lesson to be learned from this recent phenomenon is that despite the importance for the success of

131. (Emphasis in original.) Interview with Admiral Robert L. Dennison, USN (Ret.) in his home, Washington, D.C., February 23, 1977.

132. Ibid.

tactical operations of allowing the commanders on the scene the initiative to carry through with their battle plans unhampered by detailed direction from Washington, it is likely that civilian oversight (and even control) of the details of military operations will continue to plague naval commanders in the first years of the next century. Indeed, it could even increase in intensity.

The second part of this point is the importance of tactical flexibility in the outcome of naval battles. Tactical flexibility can be thought of in terms of three aspects -- flexibility of training, flexibility of tactics and flexibility of equipment or weapons systems.

Flexibility of training is vitally important simply because in battle a commander is likely to encounter a variety of unexpected occurrences, any one or more of which could determine the battle's outcome. These unexpected occurrences could include the sudden failure of major ship's systems, unexpected enemy tactics or approach and the failure of elements in the force to obey orders or follow prescribed tactics. Continuing realistic and flexible training serves to reduce the range of unexpected occurrences from which your force could suffer. Equipment could still fail at the height of battle, but a crew trained to adapt to unexpected changes likely would not be put out of action. As Commodore Arleigh Burke explained the need for thorough training, in 1945:

[I]n the heat of battle you don't remember very much, you don't think very fast, you act by instinct, which is actually training, so that you've got to be trained in battle and you will react just

exactly the way you do in training. You won't change. You won't do better, you won't do worse you'll do just about what you do in actual training. Consequently you had to train properly, you had to know what you wanted to do beforehand, you had to know what your people were going to do and you had to expect exactly the same performance in battle as you would get on a drill. No better no worse.¹³³

Too often in times of peace, a service gradually reduces the flexibility and realism of its training. This can be caused by a period of tight budgets which fail to allow sufficient funding for extensive training and which do not furnish sufficient numbers of particular weapons to allow more than a handful to be expended in live firings during each training cycle. It can also be caused by a fairly natural desire to hold down training casualties, aircraft losses and wear-and-tear on equipment. When such conditions are allied with the ongoing tendency of a service to lose a feel for the nuances of combat the farther away it moves from a major conflict, the result is an increasingly inflexible and unrealistic training program. During the interwar period the Japanese Navy maintained a much more realistic training program for its fleet than did the U.S. Navy. Samuel Eliot Morison commented:

The Japanese Navy conducted its battle training by preference in remote waters where it would not be observed, and where the men would be hardened by exposure to the elements. That this rigorous and

133. "Narrative by: Commodore Arleigh A. Burke, USN, Destroyer, South Pacific, New Georgia Campaign, DesDiv 43 and 44, Task Group 31.2," Recorded: 31 July 1945, Secret (declassified), transcript, p. 6; Interview Files, Operational Archives, Naval Historical Center, Washington Navy Yard.

realistic training under combat conditions paid off, was all too evident in the first months of the war. If men were killed or lost in these exercises, the press was not allowed to mention it. In contrast, the United States Navy normally carried out peacetime maneuvers and exercises in southern waters or where fine weather prevailed. Extra precautions had to be taken to avoid casualties and consequent unwelcome publicity.¹³⁴

Japanese naval training during this period excelled in teaching torpedo tactics and night fighting, both of which were to have a major influence on Japanese successes in surface engagements in 1942 and 1943.¹³⁵ In contrast, because of its need to economize on torpedo warheads and exploders, the United States Navy during these years only infrequently fired off live torpedoes in training.¹³⁶

Flexibility in tactics is also extremely important. A lack of tactical flexibility has often proved costly in naval warfare. For instance, the German Navy's central direction of U-boats during the Second World War necessitated a large volume of radio traffic to and from the U-boats on patrol in the Atlantic and elsewhere. Many of the liabilities of

134. Morison, Rising Sun In The Pacific, p. 25. A Japanese Navy pamphlet of 1937 recounted the training schedule: "In recent years the activities of the Fleet have been as follows. Leaving home ports the latter part of January and carrying out intensive training for the greater part of the year in the stormy Pacific or in out-of-the-way gulfs where human habitations are extremely scarce, with hardly a day of rest other than two or three days at anchor for recreation after...sometimes more than a month of operating...." 1937 Japanese Navy Department pamphlet, attached to Report No. 187 of U.S. Naval Attaché, Tokyo, 6 July 1937; quoted in *Ibid.*, p. 24.

135. See Dull, Battle History Of The Imperial Japanese Navy, pp. 60, 341.

136. See Morison, Rising Sun In The Pacific, p. 23.

extensive U-boat radio traffic were known to the Germans at the time. Admiral Donitz remarked:

It was of course obvious that as time went on the British would expand their D/F [direction finding] network and would achieve better results. ... We had therefore to assume that the enemy would pick up every radio signal made by a U-boat and would be able to locate the boat's position. Every radio signal made, therefore, put us at a disadvantage... But it was equally obvious that radio could not be dispensed with entirely. The signals from the U-boats contained information upon which was based the planning and control of those combined [Wolf pack] attacks which alone held the promise of really great success against the concentrated shipping of any enemy convoy.¹³⁷

Of course, what the German Navy (and the rest of the Wehrmacht) was unaware of was Britain's success in cryptanalyzing the German naval (and other military) codes. And this combination of being able to D/F the German U-boats and read much of their radio traffic enabled the British Admiralty to compile a far more accurate accounting of the U-boat campaign than D/F-ing alone could have done. As Patrick Beesly, who had served in the Admiralty's Operational Intelligence Centre during the war, noted: "We knew the U-boats' methods, the average speed of advance when proceeding to or from patrol, the endurance of the various types of U-boat and characteristics of many of their commanding officers, the types of patrol lines favoured, and the exact meaning of the short signals used for making sighting, weather

137. Karl Donitz's Memoirs; quoted in Patrick Beesly, Very Special Intelligence: The Story of the Admiralty's Operational Intelligence Centre 1939-1945 (Garden City, N.Y.: Doubleday & Company, Inc., 1978), p. 98.

or position reports."¹³⁸ Thus, partially as the result of an overly centralized method of controlling the U-boats on patrol, the British Navy over time was able to diminish substantially the damage suffered by its convoys in the face of a formidable German U-boat threat.¹³⁹

Similarly, much of the damage which the U.S. Navy suffered in surface naval engagements in the Pacific during 1942 and 1943 was due in great part to the inflexible way it employed its destroyers. Largely because of the paucity of destroyers in the Pacific during the first year or so of the war, naval commanders utilized their destroyers in ways which diminished their offensive capabilities. For one thing, because of the myriad duties required of the available DDs scattered around the Pacific, Destroyer Divisions and Squadrons were never able to gather all of their assigned ships together to train as a unit on fighting tactics. It also meant that when destroyers were assigned to particular task groups for particular operations, the resulting group of destroyers would almost always be composed of ships from a variety of different Divisions and Squadrons, and, thus, the skippers would be unacquainted with each other's standard

138. Beesly, *Ibid.*, p. 117.

139. For detailed information on the role of intelligence in the Battle of the Atlantic, see F.H. Hinsley, with E.E. Thomas, C.F.G. Ransom and R.C. Knight, British Intelligence In The Second World War: Its Influence on Strategy and Operations - Volume I (London: Her Majesty's Stationary Office, 1979), pp. 328-346; Volume II (London: Her Majesty's Stationary Office, 1981), pp. 166-233, 525-572; and Volume III Part I (New York: Cambridge University Press, 1984), pp. 211-245.

operating procedures and tactical doctrines. Yet these handicaps were further magnified by the entirely defensive dispositions allotted to the destroyers by naval commanders in the 1942-43 period.

Guadalcanal was a particularly bloody testing ground for surface ship tactics in the fall of 1942, and time and again, during night engagements with the Imperial Japanese Navy, the U.S. Navy was forced to pay the butcher's bill. Commodore Arleigh Burke recounted the feelings he had about those early battles, which had occurred prior to his arrival in the Pacific:

One of the things that soon came to my attention, both from the action reports and from word of mouth, people who had been in those actions, was that destroyers were not fought very well. The individual destroyers would fight heroically and gallantly, but that they were not placed in a position where they could really operate aggressively and take advantage of their speed, heavy armament, their torpedoes, and not have the enemy profit by their disadvantages of a thin hull and the easy sinkability.¹⁴⁰

Over and over again in the waters around Guadalcanal, American commanders deployed their destroyers with the van of the main body, fearing to free them for launching independent torpedo attacks prior to opening gunnery duels with the Japanese columns they encountered. The result, invariably, was that the destroyers were left as little more than additional targets for the superbly-trained Japanese naval forces.

140. "Narrative by: Commodore Arleigh Burke, USN, Destroyer, South Pacific," p. 3.

During the first engagement of the Naval Battle of Guadalcanal -- the night action of 12-13 November 1942 -- Rear Admiral Daniel Callaghan disposed his force in just such a fashion. As Potter and Nimitz remarked: "Callaghan neither issued a battle plan nor provided for any means of scouting ahead. In imitation of [Rear Admiral Norman] Scott in the Battle of Cape Esperance [won largely on luck], he disposed his vessels in a single column, cruisers in the center, destroyers divided between van and rear."¹⁴¹ Callaghan, with a force of five cruisers and eight destroyers, could not know he would be opposing a Japanese force of two battleships, a light cruiser and 14 destroyers. Nonetheless, his tactical disposition and his decision to put his flag on a cruiser which lacked SG surface-search radar, left him even more at the mercy of the Japanese.

The result of this tactical inflexibility quickly became evident. As the After Action Report on the battle recounted:

29. At 0124, near Lunga Point, ships in column, course 280°, HELENA SG radar picked up 3 groups of ships bearing 310°-312°, range 27,000-32,000 yards. [Japanese lookouts did not spot the U.S. ships until 0142.]¹⁴²

31. The picture was not clear to Rear Admiral Callaghan [who was aboard SAN FRANCISCO]. At 0139 HELENA reported having 4 targets in line but gave no bearing or range. OTC requested the distance. Just

141. Potter and Nimitz, Sea Power, p. 702. Paul Dull commented: "The U.S. ships' formation was ... faulty, for they were in a single column which gave them no destroyer screening and no opportunity for massed destroyer-torpedo attacks; thus the same mistakes made in previous night battles were being repeated." Dull, Battle History Of The Imperial Japanese Navy, p. 239.

142. Dull, Ibid.

as this was being received, sometime between 0140 and 0146, Commander Destroyer Division 10 in CUSHING reported ships crossing from port to starboard, distant 4,000 yards. At the same time HELENA reported having a total of 10 targets. The TBS now became chaotic with queries and incomplete information.

32. Our formation became disorganized. CUSHING, leading the van, turned to port to fire torpedoes but withheld fire when the crossing ships were identified as 3 destroyers turning away. Just then a large ship loomed up to starboard and several to port, probably the leading ships of the main body. One of our vessels reported over TBS: "Torpedoes passing from port to starboard." ATLANTA was forced to turn left to avoid O'BANNON which was maneuvering to prevent collision with destroyers ahead. The Task Group Commander ordered ATLANTA to return to original course. Several times thereafter he directed ships to maintain course north; but the order did not get through to all ships. Some steered 45° to left of north; several turned as far left as 270°, believing this to be the course ordered. The head of our column was mixed with the enemy and a melee existed before firing began. We had lost the advantage of surprise our radar afforded.¹⁴³

The result of the battle for the Americans was one light cruiser (Atlanta) scuttled, four destroyers sunk, one heavy cruiser (Portland) and one destroyer rendered unnavigable, one heavy cruiser (San Francisco) badly damaged, and two light cruisers (Helena and Juneau) and two destroyers damaged.¹⁴⁴ Admirals Callaghan and Scott both had been

143. Pac-90-wb, A16-3/SOL, Serial 00554, [18 February 1943], "Report from Commander in Chief, U.S. Pacific Fleet to Commander in Chief, U.S. Fleet, Subject: Solomon Islands Campaign -- Battle of the Solomons, 11-15 November 1942," Secret (declassified), typescript document, p. 7; After Action Report Files, Operational Archives, Naval Historical Center, Washington Navy Yard.

144. Ship losses and damage come from Ibid., pp. 11-12; Potter and Nimitz, Sea Power, p. 704; and Dull, Battle History Of The Imperial Japanese Navy, pp. 241-242.

killed in the engagement, together with most of their staffs. Subsequently, while retiring from the battle, Juneau was torpedoed by a Japanese submarine and sunk.

U.S. naval commanders at Guadalcanal in 1942, not being ones to learn quickly from past mistakes, suffered the consequences. The same types of faulty tactical dispositions relating to the use of destroyers were made by Rear Admiral Willis Lee just two nights after Callaghan's fight -- in the night action of 14-15 November 1942 -- and by Rear Admiral Carleton Wright at the Battle of Tassafaronga on 30 November. Indeed, it was not really until the arrival in the South Pacific of destroyer division and squadron skippers with solid competence in handling their ships and sufficient drive and stubbornness to insist on training their units as a combat team, that tactical flexibility in the use of destroyers was established. Arleigh Burke remembered:

A policy of immediate destroyer attack from the van of our forces required, first, that the destroyers be ready for attack, that the destroyer commander initiate the attack at the first favorable opportunity after contact,¹⁴⁵ and that the task force commander had confidence in the destroyer commander's ability to make a successful attack and retire with least embarrassment to the cruisers.

. . .

145. At Tassafaronga, Wright, after making radar contact with the Japanese force, had waited to release the van destroyers for torpedo attack because he could get no clear radar data, and he thus lost the opportunity to use them in an offensive role. See A16-3, Serial 06, U.S.S. Honolulu, December 9, 1942, "Report from Commander Task Force Sixty Seven to Commander-in-Chief Pacific Fleet, Subject: Report on Action, Night of November 30, 1942," Secret (declassified), typescript document; After Action Report Files, Operational Archives, Naval Historical Center, Washington Navy Yard.

The first two of these were fairly easy, the last one is a most difficult [one] for most task force commanders. The delegation of authority is always hard and under such circumstances as a battle when such delegation of authority may result in disastrous consequences if a subordinate commander makes an error, it required more than is usually meant by confidence. It required faith.¹⁴⁶

It took awhile for these destroyer division and squadron skippers to arrive on the scene (and for additional destroyers to arrive in sufficient numbers), but when they finally did -- destroyermen such as Arleigh Burke and Commander Frederick Moosbrugger and trusting naval commanders such as Rear Admiral A. Stanton "Tip" Merrill (himself a former destroyerman) -- they helped to turn things around. As Paul Dull noted: "[I]n the ship-to-ship battles fought from the time of Guadalcanal to Cape St. George, most of them being battles fought at night, the Japanese won ten, and the Americans three. ... But after the Battle of Vella Lavella, on 7 October 1943, the Japanese won no battles, while the U.S. Navy won eight."¹⁴⁷

Finally, flexibility in equipment and weapons systems is important. In terms of hardware, flexibility can refer to ships, aircraft and other weapons systems that because of designed performance factors can accomplish successfully more than the one type of mission they may have been primarily designed for. For example, a fighter with long legs and good

146. "Narrative by: Commodore Arleigh Burke, USN, Destroyer, South Pacific," p. 13.

147. Dull, Battle History Of The Imperial Japanese Navy, p. 341.

stability could be armed with bombs if need be and used in a fighter-bomber role without severely degrading its combat radius. Such would not be the case with a short-legged fighter, whose radius of action would drop off sharply with the addition of air-to-ground ordnance. Flexibility can also be used to refer to equipment that is fault tolerant, that degrades gracefully rather than abruptly. In modern naval vessels, for example, the ability to use distributed processing centers for ship control functions theoretically reduces the danger of a ship being taken out of a fight because of a single catastrophic hit on the bridge or CIC. From a damage control standpoint, the systems redundancy offered by distributed processing increases the ship's combat flexibility.

A good example of weapon system flexibility in the interwar period was Japan's retention of torpedo tubes on her heavy cruisers. The Japanese Navy had spent a great deal of effort on developing, first, an oxygen-enriched torpedo and then an entirely oxygen-fueled weapon between 1928 and 1933.¹⁴⁸ The Japanese Type 93 Model 1, 24-inch, "Long Lance" torpedo, used extensively by the Japanese Navy during the war in the Pacific, had a maximum speed of 49 knots with a range of 24,000 yards (at a slower speed the range was substantially increased, of course) and carried an explosive

148. Morison, Rising Sun In The Pacific, p. 23.

charge of 225 pounds.¹⁴⁹ By way of contrast, the U.S. Navy's Mark (Mk)-14 (XIV) torpedo, the best it had at the beginning of the war, was only 21 inches in diameter, had a maximum speed of 46 knots with a range of 4,500 yards and carried an explosive charge of only 135 pounds.¹⁵⁰

This significant difference in torpedo development and capability between the two navies greatly influenced the torpedo tactics adopted by each for their surface forces. The Japanese, armed with a highly effective, very-long-range torpedo, were convinced that it would prove a highly useful armament for their cruisers, both light and heavy. Accordingly, they mounted multiple torpedo tubes on all their cruisers built during the inter war period and trained extensively in cruiser as well as destroyer torpedo tactics. As Paul Dull commented:

Throughout the war, the Japanese warships showed remarkable skill in night fighting caused by several factors. They practiced night-fighting training in maneuvers more than the Allied fleets did. Their 24-inch torpedoes, besides having almost no wake [because they were oxygen-fueled], had a tremendous range (over three times the range of U.S. Navy torpedoes, even after they were improved in 1942). It was a standard Japanese night-battle doctrine to use torpedoes first, not to use gunfire unless necessary (although their powder had relatively

149. "Comparative Table: Torpedoes," in Dull, Battle History of the Imperial Japanese Navy, p. 60. Figures taken from Tameichi Hara, Japanese Destroyer Captain and converted by Dull from the metric system. This differs somewhat from Morison who credits the Type 93 Model 1 with 49 knots with a range of 22,000 yards. Morison, *Ibid.*

150. Morison, *Ibid.*, note, p. 23 (for diameter, speed and range); Dull, *Ibid.* (for size of explosive charge). Dull's chart provides a figure for the torpedo of 48 knots with a range of 4,360 yards.

little flash), and to use search lights as little as possible. They continued to carry torpedoes on their heavy cruisers even after the U.S. Navy removed theirs.¹⁵¹

On the other hand, the U.S. Navy, possessed of a relatively-short-range torpedo (of uncertain reliability, as it was later shown), did not see the usefulness of mounting torpedoes on heavy cruisers, since in order to get within torpedo range of enemy cruisers, their ships would have to close to within range of the enemy forces' main batteries. It should be noted that as late as 1937, in war games at the Naval War College, the Navy was assuming a maximum torpedo range of only 17,000 yards at 26 knots or 6,000 yards at 45 knots.¹⁵²

Thus, the Navy dropped torpedo tubes from the designs of all its heavy cruisers built during the interwar and wartime periods -- the Pensacola- (laid 1926-27), Northampton- (laid 1928), Indianapolis- (laid 1930), Minneapolis- (laid 1930-34) and Baltimore-class cruisers (laid 1942-on) -- and also dropped torpedo tubes from its larger light cruisers of the Brooklyn (laid 1934-36) and Cleveland classes (a development

151. Dull, Ibid., p. 60.

152. "Cruisers and Destroyers in a General Action," U.S. Naval War College pamphlet, June 1937; cited in Ronald H. Spector, Eagle Against The Sun: The American War with Japan (New York: The Free Press, 1985), p. 19.

of the Brooklyn class -- laid 1940-on).¹⁵³ This practice was in accordance with the then current wisdom in the U.S. Navy. As this was discussed in a publication issued just after the United States' entry into the war:

There is still considerable dissension among naval designers and strategists as to the soundness of equipping cruisers with torpedo tubes. This argument originates in the fact that a cruiser, when close enough to its objective to assure reasonable effectiveness for torpedoes, runs the risk of getting within range of the possibly heavier guns of her adversary. This point of view seems justified in the case of heavier cruisers, but it would appear that the torpedo will remain standard armament on their lighter sisters. The reason for this apparent inconsistency is that a heavy cruiser's operations are such that she is likely to be in a position where she can trade shell for shell with a capital ship, while a light cruiser is more likely to be found in company with or opposed to destroyers, and here she is at a distinct advantage as far as the size of her opponent's shell is concerned.¹⁵⁴

The value of retaining torpedo tubes aboard her heavy cruisers was proven to the Japanese Navy again and again

153. This information is derived from Administrative History of the Bureau of Ships, Volume III, Table 56 -- "New Construction And Conversions Directed," pp. 185-186; and Volume IV, pp. 43-46, (including Table 79--"Heavy Cruiser Comparative Statistics of Selected Pre-War and Wartime Designs"), and pp. 52-56, (including Table 80 - Light Cruisers (CL) Comparative Statistics of Selected Pre-War, Wartime and Post-War Classes"); Mitchell D. Katz, Jr., Herbert C. Lee and Edwin L. Levy, Jr., Our Fighting Ships, 1945 Revised Edition (New York: Harper & Brothers, 1945), pp. vi-vii and 16-23; Critchell Rimington, Fighting Fleets, 1943 Edition (New York: Dodd, Mead & Company, 1943), pp. 115-144; and Admiral Ernest J. King, "First Report to the Secretary of the Navy Covering our Peacetime Navy and our Wartime Navy and including combat operations up to 1 March 1944," in King, U.S. Navy At War, p. 16.

154. Critchell Rimington, Fighting Fleets (New York: Dodd, Mead & Company, 1942), pp. 49-50.

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MARITIME POWER: SOME OBSERVATIONS ON STRATEGY TACTICS
AND TECHNOLOGY REVISION(U) NATIONAL SECURITY RESEARCH
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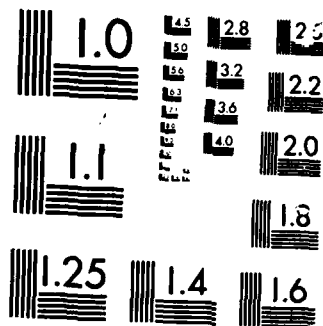
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MICROCOPY RESOLUTION TEST CHART

during the first two years of war in the Pacific. Indeed, the employment of cruiser torpedoes at the Battle of Savo Island, in August 1942, was a text-book example of surface warfare at its most devastating. A Japanese force composed of five heavy cruisers, two light cruisers and a destroyer, annihilated an unsuspecting Allied force of five heavy cruisers and five destroyers, leaving four cruisers sunk or scuttled (three U.S. -- Vincennes, Astoria, Quincy, one Australian -- Canberra), one cruiser damaged (Chicago) and two destroyers damaged (one badly).¹⁵⁵ As Japanese participants later recounted the battle:

Soon after we passed SAVO Island we sighted your southern force of cruisers [Chicago and Canberra]. About two minutes after sighting we fired torpedoes, then opened fire with guns. Immediately after firing the torpedoes we changed course to the left and sighted your northern force.

During the turn left the column broke up but the divisions remained together. The CHOKAI [the Japanese flagship] and CruDiv 6 passed to the east of your [northern] force while CruDiv 18 passed to the west. We fired both torpedoes and guns. The CHOKAI illuminated briefly with search lights. Your ships concentrated upon her but most of the hits were made by machine guns. The range was very close. Outside of machine gun hits the only damage received was by the CHOKAI which was hit by a salvo from your leading cruiser in the northern group....¹⁵⁶

. . .

Those [southern force] cruisers were under observation for about twenty-five minutes before we

155. Dull, Battle History of the Imperial Japanese Navy, pp. 187-193; and Potter and Nimitz, Sea Power, pp. 694-696.
156. Interrogation NAV No. 109 USSBS No. 467, Tokyo, 20 November 1945, Interrogation of Commander Tadashi Yamamoto, IJN; Interrogations of Japanese Officials, Vol. II, p. 472.

fired our torpedoes. When these ships were about 5,000 meters away, we fired torpedoes then turned left to intercept the second group of cruisers which had been reported by the scouting plane.... The range was very close, about 2,000 meters. When the CHOKAI approached the enemy, the main battery of the first ship that we saw, which I think was the last ship in the column, was not trained on either of our groups of ships. This fact was first reported by our lookouts, so we continued the battle very easily minded, without any worries....¹⁵⁷

This kind of cruiser fighting was something the U.S. Navy had never even imagined prior to the war, and, as a result, it was totally unprepared to engage in it. Its heavy cruisers lacked torpedoes and its escorting destroyers were not free to launch offensive torpedo attacks while positioned in the van. Less flexible weapons systems combined with inflexible tactics to defeat the Navy on numerous occasions during the fall of 1942 in the waters off Guadalcanal.

Some Thoughts on Technology

The first point that should be made in this final section of the Task Three paper is a somewhat general one. That is that one must acknowledge the difficulty of employing a new weapons technology in combat in a way that is anything more than tactically decisive and that, only over the short run. If one were to lay out the requirements for the successful (that is, decisive) employment of a new weapon, these would consist of the following: the weapon would have to be fully

157. Interrogation NAV No. 83 USSBS No. 407, Tokyo, 13-14 November 1945, Interrogation of Captain Kenkichi Kato, IJN, Executive Officer, CHOKAI (CA) at SAVO Island; in Ibid., pp. 361-362.

operational; it would have to be technically superior to what was available to the enemy; it would have to be available in sufficient quantities; and it would have to be employed by adequately trained personnel in a manner that properly exploited the technological superiority of the weapon. The near-simultaneous achievement of all of these factors that is required for success naturally poses a tall order for naval (and other military) commanders. And it is therefore clear why new weapons systems rarely attain for those employing them that decisive advantage so often promised for them in the laboratory. Given the nature of combat, new weapons are often utilized before a significant number of them has become available. And the benefits accrued by the initial, surprise uses of these weapons rapidly decline, as the enemy begins to learn how to counter them.

One example of this rapid waning of technological advantage occurred in the years just before World War I, at a time when Germany and Great Britain were embarked on a great naval race. The roots of this race for naval dominance could be traced to the June 1897 assumption of command in the German Reichsmarineamt (Imperial Naval Office) of Rear Admiral Alfred von Tirpitz. The Admiral was a staunch believer in the importance to German imperial ambitions of a strong battle fleet. He was further encouraged in this view by his sovereign, Kaiser Wilhelm II. Within a few days of his assumption of office, Tirpitz had drafted a memorandum which outlined his plan to expand the German navy. It read in part:

General assumptions on the construction of our fleet according to ship classes and designs:

* * *

2. For Germany the most dangerous enemy at the present time is England. She is also the enemy against whom we must have a certain measure of Fleet Power as a political factor.

* * *

5. The military situation against England demands battleships in as great a number as possible....¹⁵⁸

This was a clear challenge to the British Navy's two-power standard, and within several years of Germany's First Navy Law of 1898, the British Admiralty had begun to respond to this German threat to British naval supremacy by increasing its own naval construction program.¹⁵⁹ However, the full British response awaited the appointment of Admiral Sir John Fisher as First Sea Lord (1904). It was "Jackie" Fisher who, imbued with the dream of building a new battleship whose technological supremacy would arrest the ship type's decline, brought about by its increasing vulnerability to small-navy weapons such as the fast torpedo craft and the

158. Quoted in Peter Padfield, The Great Naval Race: The Anglo-German Naval Rivalry, 1900-1914 (London: Hart-Davis, MacGibbon, 1974), pp. 44-45.

159. See Kennedy's chapter, "The End of Pax Britannica (1897-1914)", in his book, Rise and Fall of British Naval Mastery.

submarine,¹⁶⁰ seized upon the concept of an all-big-gun battleship, capable of hitting enemy vessels with long-range salvos of maximum weight. So, the HMS Dreadnought was laid down in October 1905 and steamed out for sea trials just a single year later, quickly making its name generic for all battleships of this new type.

The design and rapid construction of Dreadnought was a remarkable technological feat. Its striking adoption of the all-big-gun principle threatened to render obsolete all the battleships so patiently being built up under Tripitz's Navy Laws. As Fisher wrote to King Edward VII: "[T]he whole of their existing Battle Fleet was utterly useless because utterly wanting in gun power!"¹⁶¹

However, while Dreadnought rendered Germany's battleships a second-class force, it had the effect of doing the same for Great Britain's far more numerous fleet of battleships. And when, for a variety of reasons, Britain could not afford to build a new fleet of dreadnoughts at the same rapid pace as the first of this class, she suddenly became concerned that

160. Fisher had written: "The battleship of olden days was necessary because it was the one and only vessel that nothing could sink except another battleship. Now, every battleship is open to attack by fast torpedo craft and submarines....Hence what is the use of battleships as we have hitherto known them? NONE!" (Emphasis in original.) Quoted in Arthur J. Marder, The Anatomy of British Sea Power: A History of British Naval Policy In the Pre-Dreadnought Era, 1880-1905 ([reprinted] Hamden, Conn.: Archon Books, 1964), p. 528.

161. (Emphasis in original.) Letter from Admiral Sir John Fisher to the King, October 4, 1907, in Fear God and Dreadnought, Vol. II; quoted in Barry Howard Steiner, "Arms Race Processes And Hazards" (Unpublished Ph.D. dissertation, Columbia University, 1970), note, p. 246.

her rival Germany was poised to close the gap in ships of this type.¹⁶² As the British Navy's Otley Committee had concluded, even before Dreadnought was built:

It might appear at first sight that as regards [total numbers of pre-dreadnought] battleships, these figures would justify a limited output for several years to come, and, if the general design of that class was in any respect of a permanent nature, this would doubtless be the case... If, [however] as seems probable, the lesson [of the all-big-gun battleship] is equally appreciated and acted on by other maritime powers, it is evident that all existing battleships will shortly become obsolescent, and our preponderance of vessels in that class will be of little use. We shall have no option, therefore, but to resume our building programme on the same relative scale....¹⁶³

And, indeed, until the British wartime building pace outstripped German pretensions to equality in dreadnoughts, the U.K. did see the number of completed German dreadnoughts climb from 40 percent of British strength in 1910 to 72.2 percent in 1914, where in the pre-dreadnought era, Britain had led her rival in modern battleships more than 2 1/2 to 1.¹⁶⁴

Thus, even a major evolutionary technological change such as that ushered in by the construction of HMS Dreadnought

162. Of course, because of financial and technical difficulties, Germany eventually proved unable to compete on an equal footing, but Britain could not have been certain of this at the time.

163. Quoted in Marder, Anatomy of British Sea Power, p. 512.

164. See "Appendix I, Table Showing The Comparative Strength Of The Greater Naval Powers In Various Classes Of Ships Between 1898 And 1914," in E. L. Woodward, Great Britain and the German Navy ([reprinted] London: Frank Cass and Co. Ltd., 1964), pp. 449-453.

proved to offer only a temporary advantage in the context of the Anglo-German naval race.

It might be useful to close out the brief discussion on this first point with a quote from Dr. Ellis Johnson, a liaison officer to Admiral Nimitz and Director of Mining on General Curtis LeMay's staff during the Pacific War. He wrote:

When the writer was trying to find some way of contributing to military research in the fall of 1939, shortly after war began in Europe, he asked Dr. Ross Gunn, the Superintendent of Electricity and Magnetism at the Naval Research Laboratory, what would be the most effective way of helping the Navy in research. Gunn gave his opinion that the research which would play a decisive part in the tactics of warfare would be finished before war began, and that research begun later would seldom be of much importance to that particular war, although it might be to future ones....

The writer is now convinced that very new weapons do not win the war during which they are developed. In the Pacific, at least, none of the new weapons, including the atom bomb, played a decisive part. In 1942 and 1943, the critical years, there were no new weapons available in the Pacific. The war was fought on a shoestring and its success depended almost entirely upon military skill of the Army and the Navy. By the end of 1943 almost all of the decisive battles had been fought without the benefit of new weapons and the turning point of the war had been reached....

That is not to decry, however, the importance of new weapons, one of which is described in great detail in this book; it is rather to decry an overemphasis on the supreme importance of new weapons as if novelty alone established their worth. They still have to be good, they still have to be useful, and they still have to be available in quantity, with

personnel trained in their use, when they are needed.¹⁶⁵

The second point to be discussed in this final section is that it takes time (often considerable time) for naval commanders to learn how to use a new technology effectively in combat once it has been introduced into the fleet. Such was the case with radar aboard U.S. Navy surface vessels in the first years of World War II. In early 1943, Vice Admiral Raymond Spruance had noted: "It is estimated that the Japanese are roughly a year behind us in radar. If we vigorously exploit this weapon great advantage can accrue to our side in a year."¹⁶⁶ And yet, up to that point in time, the American advantages in radar had not been effectively exploited in the Pacific War.

At the time of the Battle of Savo Island, for example, the American naval commanders were not very well informed about radar's capabilities. As Rear Admiral Richmond Kelly Turner recalled in March 1943:

The only point about which I was uncertain [at the time of the Savo Island battle] was the use of only two screening destroyers to the west of SAVO, employing radar. The number seemed small, but after some inquiry, I received assurances that these two vessels ought surely to detect the approach of any enemy vessels up to twelve to fourteen miles. Knowledge possessed by me and the staff concerning radar was practically non-existent. Admiral

165. (Emphasis added.) Ellis A. Johnson and David A. Katcher, Mines Against Japan (Silver Spring, MD.: Naval Ordnance Laboratory, 1973), pp. xii-xiii. This study was originally prepared in classified form in 1947.

166. "Report from Commander in Chief, U.S. Pacific Fleet, Subject: Solomon Islands Campaign," p. 23.

Crutchley [the Rear Admiral Commanding Australian Squadron (and Task Force 44 at Savo Island)] had an officer who was considered well qualified in radar. I consulted some other officers with experience. All seemed to think this team was satisfactory.¹⁶⁷

And, although both the destroyers Blue and Ralph Talbot which were acting as picket ships at the time of the Savo Island Battle were equipped with SC radar, their crews were unaware that their radar sets' effectiveness was being seriously undermined by land echoes. As a result, Admiral Mikawa's cruiser-destroyer force passed fairly close astern of Blue without being detected and entered those supposedly guarded waters close to Savo without a warning being given, thus enabling it to wreak havoc on the unsuspecting Allied force.¹⁶⁸

At the Battle of Cape Esperance (11-12 October 1942) and the 12-13 November 1942 night action forming part of the Naval Battle of Guadalcanal, the naval commanders involved were plagued both by poor communications procedure on TBS (a relatively new piece of communications gear) and improper use of available radar assets. At Cape Esperance, voice procedure over the TBS was faulty, in several instances causing the commander, Rear Admiral Norman Scott, to hesitate in opening

167. (Emphasis added.) Memorandum for Admiral Arthur J. Hepburn, U.S. Navy (Retired) from Rear Admiral Richmond Kelly Turner, March 1943; quoted in Vice Admiral George Carroll Dyer, USN (Retired), The Amphibians Came to Conquer: The Story of Admiral Richmond Kelly Turner (Washington, DC: Naval History Division, U.S. Navy Department, 1973), Vol. I, p. 380.

168. Hezlet, Electronics and Sea Power, p. 220.

fire on the Japanese ships involved because of a fear that his cruisers were engaging his own destroyers.¹⁶⁹ Scott's direction of the engagement also was severely hindered by the fact that he was operating from San Francisco, a cruiser not equipped with the latest SG (surface-search) radar. At Cape Esperance, the Helena, a cruiser in Scott's Task Force 64 that did possess SG radar, first picked up Admiral Goto's force at a range of 27,700 yards but failed to report the enemy position to Scott. It was not until some thirteen minutes later that an SG radar set on Boise picked up the Japanese ships. Scott's flagship San Francisco finally made radar contact on its fire-control radar when Goto's ships were only 5,000 yards away, and it was at that point that faulty communications procedure began to sap Scott's confidence that he was really attacking Japanese vessels.¹⁷⁰ The outcome of the battle in favor of the Americans thus was proven to be more a matter of lucky happenstance than skillful tactics.

During the first night action of the Naval Battle of Guadalcanal, the situation was extremely similar. Once the U.S. and Japanese formations became intermingled, the TBS "became chaotic with queries and incomplete information." Writing in the Comments and Conclusions section of his report on the Naval Battle of Guadalcanal, Admiral Spruance noted about the TBS situation: "The complete reliance placed on TBS is unfortunate. Steps have been taken to impress upon

169. Ibid., p. 222.

170. Ibid., pp. 221-223. See also Dull, Battle History of the Imperial Japanese Navy, pp. 215-221.

responsible officers the unreliability of this means of communications as compared to higher powered, lower frequency equipment available."¹⁷¹ Rear Admiral Daniel Callaghan, the senior commander in this engagement (Scott was also present), had, like Scott at Cape Esperance, chosen to fly his flag from San Francisco. The result was that Callaghan spent precious minutes of the battle attempting to find out from the ships in his force which were equipped with SG radar just where the enemy ships were. As Admiral Spruance summed up the situation:

114. SAN FRANCISCO was hampered as on 11-12 October [Cape Esperance] by her lack of ship detection radar. While Rear Admiral Callaghan was trying to get a clear picture of the situation from ships so equipped, the situation suddenly began to develop beyond his control. From TBS Logs it appears that he was just beginning to get information on the enemy disposition and movements when the 2 formations became intermingled. His destroyers started to turn and there was confusion of identity at the moment of opening fire. Four minutes after opening fire the Task Group Commander ordered "cease firing, our ships". Nine minutes later 1 of his cruisers was requesting permission to open fire. With SG radar he would have been more certain of his own formation, and his force might have been able to maintain uninterrupted fire.¹⁷²

It wasn't until early 1943 that the Navy in the Pacific had begun in a significant way to utilize its radar advantage over the Japanese to counter the Imperial Japanese Navy's better tactical night-fighting skills. Indeed, Arleigh Burke learned

171. "Report from Commander in Chief, U.S. Pacific Fleet, Subject: Solomon Islands Campaign," p. 22.

172. (Emphasis added.) Ibid., p. 20.

his lesson about relying on radar following his first combat in Kula Gulf later that year. He recalled:

Time is all important, and it did not sit very easily on my conscience that I had spoiled WALLER's chances of a good torpedo attack by trying to make sure that it was actually a ship [seen on the radar scope]. It took considerable study before I came to the full realization that it was my fault, that it wasn't the fault of the radar operator, but it was my fault as Division Commander of the division to make up my mind when I was going to fire, that I had to accept the reports that people gave me. I could try beforehand to get those reports as good as possible, but in the midst of battle I could not ask the lad [the radar operator], "was he sure." He was giving me what he saw, and it was up to me to make up my mind, make up my decision and do something now! It's a lesson that I never forgot.¹⁷³

A third point worth noting with regard to technology is to learn not to count on a particular technology too heavily, because it may fail you just at the time it's most needed or because the enemy may suddenly and unexpectedly counter it. One well known example related to the failure of a weapon system was the performance of the Navy's Mk-14 torpedo in the first two years of the Second World War. The Mk-14 had been designed in the interwar period by the Bureau of Ordnance with a highly sophisticated magnetic exploder, designed to set off the torpedo directly under a ship's hull in response to a reaction to changes in the earth's magnetic field generated by the ship's steel hull. However, because of the high cost of each torpedo, the Bureau of Ordnance never tested it with a

173. "Narrative by: Commodore Arleigh Burke, USN, Destroyer, South Pacific," p. 6.

live warhead.¹⁷⁴ As a result, no one in BuOrd was aware that the torpedo had design flaws that seriously degraded the weapon's performance.

It wasn't until U.S. submarines began returning from Pacific patrols in mid-1942 with stories of dud torpedoes that anyone began to suspect that the Mk-14 had serious problems.

Captain W. J. "Jake" Holmes remembered:

Before the war we had expected that Asiatic submarine squadrons would take a heavy toll of the Japanese Navy. The immunity of Japanese naval vessels to submarine attack during the Philippine operation was demoralizing....Soon we had...[decrypted] Japanese reports of torpedoes running harmlessly under the target, or scoring direct hits without exploding, or exploding prematurely before reaching the target.¹⁷⁵

Yet even in the face of increasing evidence, BuOrd refused to take these concerns about the torpedo's effectiveness seriously, until Admiral Charles Lockwood, Commander, Submarines, Southwest Pacific, managed to take the subject up with Admiral King.¹⁷⁶ Finally, by late 1943 the variety of the Mk-14's design flaws had been corrected, but not before thousands of tons of Japanese shipping had escaped destruction. However, with the Navy's introduction of the Mk-18 heavy

174. Spector, Eagle Against the Sun, p. 484.

175. W. J. Holmes, Double-Edged Secrets: U.S. Naval Intelligence Operations in the Pacific during World War II (Annapolis, Md.: Naval Institute Press, 1979), p. 103.

176. Ibid., pp. 104-105; Buell, Master of Sea Power, p. 412.

electric torpedo in late 1944, new design problems had to be solved all over again.¹⁷⁷

Another case of unanticipated equipment failure (unavailability would be more accurate) -- this time affecting the fighting ability of just one ship during one battle -- occurred during the battleship action on the night of 14-15 November 1942 (the third and final engagement in the Naval Battle of Guadalcanal). In this battle, U.S. Navy Task Force 64, consisting of two battleships (Washington and South Dakota) and four destroyers under the command of Rear Admiral Willis Lee, encountered, in the waters near Cape Esperance, a Japanese force under Admiral Kondo that included the battleship Kirishima, four cruisers and nine destroyers.

During the midpoint of the battle, as Washington and South Dakota were maneuvering against the Japanese force, South Dakota's circuit breakers tripped, causing her to lose all power to her lights, radar and gun turrets for about three minutes. Ironically, just about the time her power was restored she found herself well within the gun range of the Japanese force. With her inability to use her SG radar in those few minutes, she had accidentally closed with the enemy ships. As the report of the action noted:

95. After power failure, SOUTH DAKOTA's SG radar went out and was not in commission until 2346. Almost immediately thereafter it located targets on

177. See Captain Frank A. Andrews, U.S. Navy (Retired), "Torpedoes: Our Wonder Weapon! (We Wonder If They'll Work)," "Professional Notes" Section, United States Naval Institute Proceedings, Vol. 105 (March 1979), pp. 94-97.

the starboard bow and at 2347 SOUTH DAKOTA was illuminated [by a Japanese ship] slightly forward of the starboard beam, range about 5,000 yards.

. . . .

96. WASHINGTON had had these ships on radar screen for some time and considered that SOUTH DAKOTA had them also. Because of the blind arc in SG radar astern, the Task Force Commander did not know SOUTH DAKOTA's exact position but considered that she was farther to the south, remaining outside 7,000 yards of the enemy as planned. At this time he directed our remaining destroyers to retire.

. . . .

98. Enemy ships opened fire on SOUTH DAKOTA with triple or quadruple concentration. WASHINGTON took the leading enemy ship under fire immediately with her main battery and damaged it severely. SOUTH DAKOTA opened up with secondary battery at once on the illuminating ship and with her main battery shortly thereafter....

. . . .

101. From 2349 to 0008 SOUTH DAKOTA received many hits, including 14", 8", 6" and smaller....

102. Radars, directors, fire control instruments, guns, TBS, and many other pieces of valuable equipment [topside] were put out of action by enemy hits....¹⁷⁸

Thus, as a result of temporarily losing her SG radar due to a power failure, South Dakota was subjected to a close pounding by the Japanese force. And it was only Washington's superb radar-controlled gunfire on Kirishima that rescued the situation and kept the battle damage to the other U.S. battleship from becoming even more serious than it was.

A third and final example of unexpected systems breakdown -- this time due to enemy countermeasures -- will be cited.

178. (Emphasis added.) "Report from Commander in Chief, Pacific Fleet, Subject: Solomon Islands Campaign," pp. 17-18; see also Dull, Battle History of the Imperial Japanese Navy, pp. 243-246; and Potter and Nimitz, Sea Power, pp. 704-705.

During the battle for Okinawa, during March-June 1945, the fast carriers were being continually subjected to determined attacks by Japanese Kamikaze aircraft. In the previous campaigns, the Fast Carrier Task Force had worked out a very effective defense against incoming aircraft, using radar warning to vector the combat air patrols toward the bogies long before they penetrated the task groups' inner screens. However, by the time of the Okinawa campaign, the Japanese pilots had figured out a way of avoiding radar detection and, as a result, the U.S. carriers began being subjected to almost zero-warning Kamikaze attacks. Commodore Arleigh Burke recalled:

It was a very tough period for us because there was no warning being given by the radars of the entire force. We were just not picking up the enemy planes. Most of the time the first indication of an aircraft that we had was visual sighting by our inner screen. The CAP shot down a total of 12 aircraft and the task force anti-aircraft fire splashed 21. That was the reverse of what usually happens.

. . .

We were commencing to have grave doubts as to the efficiency of our radars. We started checking everything that we possibly could. Our people were tired, we knew that, but we weren't getting any warnings from anybody. We thought that perhaps the Japanese might have had a radar countermeasure which made our radar inefficient. Actually it was clever use of cloud cover, their clever approach either very low or very high. By approaching very high, they could ride over our radar beams until they got into a low or into a null and then ride down the null and we would never be able to pick them up. They knew this.¹⁷⁹

179. "Narrative by: Commodore Arleigh Burke, USN, Carrier Forces Pacific -- Tokyo Strike, etc.," p. 10.

Thus, it can be seen that overreliance upon a particular equipment or weapons technology can have serious negative consequences in combat. This makes it very evident that tactical commanders must be flexible enough in the employment of their forces to minimize the damage which such unexpected failures might otherwise cause during battle.

Concluding Remarks

This study was written as a cautionary lesson about the humility which, ~~historically~~, combat at sea has imposed upon naval commanders. There seems to be a natural tendency for military officers of all services and countries, the farther removed from actual combat they become, to forget, or at least minimize, the effects of "friction" on the outcome of battles, operations and wars.

The purpose of this brief study was not to castigate any single school of strategic or tactical thinking in the United States Navy today, rather it was to provide a series of analytical reflections that could serve to weaken dogmatic assertions of any stripe. Senior officers of the Armed Forces long have been castigated for their tendency to base their services' projected force levels and procurement plans on worst-case analyses of the potential threat. Indeed, this can be carried to extremes. However, when it comes to strategic planning, an inherent pessimism is a far less dangerous foe than an optimism bred of too many war games and canned exercises too far removed from the realities of actual combat.

If the U.S. Navy does find itself involved in a protracted conventional war with the Soviet Navy in the first decades of the next century, this war is almost certain to be both more arduous than all but the most pessimistic of today's planners envision and more variable in terms of operational and tactical employments than is now projected. The keys to victory under such circumstances may well be a strongly realistic understanding from the outset of the strategic costs as well as benefits of selected courses of action and a tactical flexibility born of early acknowledgement that whatever you do know about the nature of the developing conflict is likely to be far less than what you don't.

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