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THE RELEVANCE OF MAHANIAN THEORY IN THE NUCLEAR AGE

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## Report Documentation Page

*Form Approved  
OMB No. 0704-0188*

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|   |                                    |   |                               |                        |                                    |
|---|------------------------------------|---|-------------------------------|------------------------|------------------------------------|
| 1. REPORT DATE<br><b>1991</b>   | 2. REPORT TYPE                     | 3. DATES COVERED<br>-                       |                               |                        |                                    |
| 4. TITLE AND SUBTITLE<br><b>The Relevance of Mahanian Theory in the Nuclear Age</b>   |                                    | 5a. CONTRACT NUMBER                         |                               |                        |                                    |
|   |                                    | 5b. GRANT NUMBER                            |                               |                        |                                    |
|   |                                    | 5c. PROGRAM ELEMENT NUMBER                  |                               |                        |                                    |
| 6. AUTHOR(S)  |                                    | 5d. PROJECT NUMBER                          |                               |                        |                                    |
|   |                                    | 5e. TASK NUMBER                             |                               |                        |                                    |
|   |                                    | 5f. WORK UNIT NUMBER                        |                               |                        |                                    |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br><b>National War College, 300 5th Avenue, Fort Lesley J<br/>McNair, Washington, DC, 20319-6000</b> |                                    | 8. PERFORMING ORGANIZATION<br>REPORT NUMBER |                               |                        |                                    |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)   |                                    | 10. SPONSOR/MONITOR'S ACRONYM(S)            |                               |                        |                                    |
|   |                                    | 11. SPONSOR/MONITOR'S REPORT<br>NUMBER(S)   |                               |                        |                                    |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT<br><b>Approved for public release; distribution unlimited</b>   |                                    |   |                               |                        |                                    |
| 13. SUPPLEMENTARY NOTES   |                                    |   |                               |                        |                                    |
| 14. ABSTRACT<br><b>see report</b>   |                                    |   |                               |                        |                                    |
| 15. SUBJECT TERMS   |                                    |   |                               |                        |                                    |
| 16. SECURITY CLASSIFICATION OF:   |                                    |   | 17. LIMITATION OF<br>ABSTRACT | 18. NUMBER<br>OF PAGES | 19a. NAME OF<br>RESPONSIBLE PERSON |
| a. REPORT<br><b>unclassified</b>  | b. ABSTRACT<br><b>unclassified</b> | c. THIS PAGE<br><b>unclassified</b>         |                               | <b>12</b>              |                                    |

It is generally accepted that Alfred Thayer Mahan was the first prominent historian to articulate the role of sea power as a basis for national policy. Less accepted, however, is Mahan's relevance today in light of the vast technological changes which have clearly modified the employment of seapower since he conducted his review of seventeenth and eighteenth century military -- and especially, British naval history.

The most elegant statement of Mahan's continued relevance in the face of such far reaching developments as nuclear power, nuclear weapons, and missile and space technology is that sea power as an element of national power has not disappeared in the nuclear age as many predicted. Moreover, it has remained such an important element that a new sea power emerged in the form of the Soviet Union.

As elegantly simple as the observation is, to ignore the differences in twentieth century sea power wrought by technological developments does disservice to Mahan's overarching "staying power" -- and ignores some important qualifiers on significant portions of Mahanian theory.

We need only reflect on the daunting task confronting Russian Vice Admiral Rozhdestvenski in steaming his forty-two ship Second Pacific Squadron from St. Petersburg to the Far East (ultimately to face Admiral Togo's Japanese fleet at Tsushima) in order to grasp the enormity of changes brought on by

technological advancements at sea. Consider for example, that the Russian fleet consumed 3,000 tons of coal per day at cruising speed; and about 10,000 tons a day at full speed. A conservative estimate on the part of the Admiralty at St. Petersburg was that half a million tons of coal would be needed to reach the Far East. Uninitiated at the time to Mahan's thesis, and unencumbered by the British experience, the Admiralty was forced to hire sixty private colliers (coal ships) to supply the fleet from the Baltic to the Yellow Sea<sup>1</sup> To Rozhdestvenski fell the added burden of halting the fleet at sea or in strange ports; to his sailors fell the added burden of transferring coal from colliers to warships by hand - - sack by sack!<sup>2</sup>

Compare this monumental undertaking to the non-stop voyage of the nuclear powered aircraft carrier Nimitz from Naples harbor, through the straits of Gibraltar, around the Cape of Good Hope and into the North Arabian Sea, in 19 days, and we begin to grasp the magnitude of changes brought on by technology. Yet the fact that the mission was assigned to sea power, as an expression of national policy, only serves to reinforce the continued relevance of Mahan.<sup>3</sup>

Mahan of course was confronted with technological advancements of his own time during the course of his writing. Indeed advancements in gunnery and communications between 1904 and 1914 outstripped the developments of

the previous half century. In characteristic fashion he concluded that these advancements - - refinements in steam power, steel manufacturing to replace iron, torpedoes, and several years later the development of submarines, automotive torpedoes and wireless telegraphy - - had "simply widened the question, not changed its nature".<sup>4</sup> While such developments might place a "far greater strain on...blockaders, and compel them to keep at a much greater distance", the principles of strategy remained unchanged.<sup>5</sup>

Mahan had thoroughly considered the impact of steam technology that made ships independent of the vagaries of wind and expanded the fleet's radius of action. Less so did he consider the real impact of submarines, and even less the impact of aircraft on fleet operations. (It goes without saying that he could hardly have imagined missile technology.) It is easy to speculate that Mahan would stubbornly relegate ocean-going submarines, long-range, shore-based aircraft and long-range missile technology to the same genre as steam; that is, simply widening the question, not changing its nature.

Yet we must ask: would he have been entirely wrong? Certainly World War I submarine warfare initially discredited Mahanian theory, as the Grand Fleet was forced to resort to that ignoble non-Mahanian technique of *la guerre de course*. However, as is the case with most technologically induced warfighting advancements and their counters - - in this case, German ocean-going torpedo

carrying submarines, and their counter, convoy tactics in World War I, and later, aircraft antisubmarine warfare in World War II - - a balance of sorts was reestablished and the Grand Fleet ultimately was able to return to Mahanian-style fleet operations.

It is more accurately the case that new technology, especially weapons advancements, has imposed significant qualifiers on Mahanian theory, but has not obviated it. In short, new weapons have more narrowly circumscribed the areas in which naval forces may operate.

Vice Admiral Stansfield Turner expressed this condition forcefully: "it is no longer conceivable, except in the most limited sense, to totally control the seas for one's own use or to totally deny them to an enemy." His more realistic perspective is "control in limited areas and for limited periods of time." <sup>6</sup> Yet even as technological advances are at work reducing the safe operating area of fleets - - submarines in World War I, land-based aircraft contesting the "narrow seas" in World War II, and long-range aircraft and longer range missiles in the post-War period - - technological advances in defensive systems are similarly at work equalizing the arena and regaining some of the lost operating area. A more balanced perspective to Admiral Turner's somewhat pessimistic view of maritime superiority is suggested by Sir James Cable: "...not even the most sophisticated fleet is today so superior to all potential adversaries as to enjoy

immunity at sea...Maritime superiority can still be achieved, but it is a condition much more expensive, less reliable and more precisely tailored to the circumstances of particular disputes than it used to be." 7

Paradoxically, the one area of technological advancement in maritime warfighting for which there has been no countervailing advancement in defensive systems, is that area which popular commentators predicted would render the notion of "Grand Fleets" of capital ships obsolete, and by extension, the entire theoretical underpinnings of Mahanian strategy: nuclear weapons and nuclear warfare at sea. Beyond the elimination of as many delivery platforms as possible, there simply was - - is - - no adequate defense against properly delivered nuclear weapons at sea. Yet not only did the notion of a large standing navy as an instrument of national power survive in this country, a large blue-water navy designed to contest the sea lines of communications and establish its own terms of maritime superiority emerged under the shadow of nuclear weapons: the Soviet Union.

The reasons for this seeming inconsistency are many and varied. The first, and perhaps most important, has to do with the individual logic of nuclear deterrence; the "if" and "when" (and sometimes, "how") nuclear weapons might be employed in the conduct of war. Let us conclude that large standing fleets and maritime strategy survives in the face of nuclear weapons for the same

reasons that large standing land armies and air forces do: from the deterrent effects the weapons themselves impose. Additionally, if both -- or all -- sides of a conflict are prepared to use nuclear weapons to establish, maintain, or deny maritime superiority, then the country that does so most effectively should win the decisive battles. Assuming sufficient surviving naval forces, that country will be able to exploit the advantage of maritime superiority. But to deny a naval force for fear that it might be defeated, by conventional or nuclear weapons, defies logic.

Beyond that, there are some practical limitations on nuclear warfare at sea (hence the earlier emphasis on "properly delivered"). Modern fleets are widely dispersed, minimizing the effects of collateral damage; popular misconceptions notwithstanding, targeting of high value "capital ships" in large bodies of water, in large formations of ships, and in the presence of numerous commercial ships is not an easy undertaking; and, the water medium tends to absorb and diffuse the nuclear effects. In short, a "near miss" at sea is not nearly as effective as a "near miss" on land. This is not to cavalierly dismiss or even unduly underestimate nuclear warfare at sea. Clearly all the nuclear effects are present - - thermal, blast and radiation (and EMP). And equally clearly, if a capital ship can be hit by a conventional weapon, it can be hit - - or "close enough" - - by a nuclear weapon. But the use of nuclear weapons, for all their

**devastating power, does not automatically spell the annihilation of the fleet. Likewise, their existence and potential use has not foreclosed the use of sea power as an element of national policy, nor foreclosed on the continued relevance of Mahan.**

**What then can we conclude about Mahan's continued relevance in the nuclear age? Which of his basic tenets remain unaltered by the advent of nuclear weapons, nuclear power, and missile and space technology, and what qualifiers must be imposed on portions of Mahanian theory?**

**Certainly the major foundation of Mahan's strategic thought, that "navies...exist for the protection of commerce...(and) in war they must aim at depriving their enemy of that great resource" remains as valid today as it did in the 1890's. Yet the concluding portion of that same statement - - "nor is it easy to conceive what broad military use they can subserve that at all compares with the protection and destruction of trade" <sup>6</sup> - -must be tempered with the knowledge that navies today can substantially and directly support the land war through the application of air power and missiles. Thus, it is easier to conceive of a broader military use of sea power that may in some instances be subservient to the destruction of an enemy's trade.**

**Technological advances in propulsion and long range weapons have similarly modified Mahan's notion that "command of the sea" was properly**

executed near the enemy's coast where it could threaten his command of the sea. But Mahan had already addressed such modifications himself, in considering the impact of steam and torpedoes, concluding that these types of developments simply widened the question, but did not change its nature. Nuclear power and even longer range weapons have further widened the question, but still have not changed its fundamental nature.

We have already addressed how non-naval threats, particularly land-based air, and to a lesser extent land-based missile systems have served to circumscribe the operating area of naval forces. These developments, along with nuclear weapons, have caused nations to reduce their expectations of total command of the sea, at all times, to command of the sea at a particular time and in particular places. Again in restatement though, counterbalancing advancements in defensive systems -- long-range sea-based fighter/interceptor aircraft, sophisticated surface-to-air missile systems and other anti-ship missile defense systems - - have worked to regain much of a fleet's operating area. Further advancements are possible but at great expense and debatable value given the long range power projection capabilities of a modern navy. We must conclude then, that some qualification of Mahan's concept of "command of the sea" is in order, but the concept is not obsolete.

The most far-reaching twentieth century modification to Mahanian maritime theory has little to do with technology, and to be perfectly precise, nothing to do with Mahan since he did not address himself to the issue: the use of navies as an instrument of national power during peacetime. In exclusively examining the wartime use of navies, he ignored an already long and rich history of the political use of navies - - especially British - - during peacetime. As the dominant employment of navies in the post World War II period, and therefore the dominant force shaping modern strategic concepts such as maintenance (sometimes forceful) of the right to free and unrestricted maritime passage on the seas, it is indeed unfortunate that we do not have Mahan's thoughts on the subject to consider. I daresay they would be relevant.

## NOTES

1. Mahan's first published work, The Influence of Sea Power Upon History, 1660-1783, appeared in 1890. More appropriate to the Russian experience were his books and articles which appeared between 1902 and 1910. It is not surprising then that the Russian Admiralty would be "uninitiated" to Mahan at the time of the Russo-Japanese War of 1904-05. More to the point though, was the existence of the British model including an extensive network of colonies and coaling stations, all of which had left the Russian Navy largely unaffected.
2. Drew Middleton, *Crossroads of Modern Warfare*, (New York: Bedrick Books, 1985) p. 5.
3. USS Nimitz was sortied from Naples, Italy on 4 January 1980, in response to the Iranian hostage crisis. Arriving on "Gonzo" Station on 23 January, Nimitz ultimately served as the launch platform for the ill-fated hostage rescue attempt at Desert One.
4. Alfred T. Mahan, "Blockade in Relation to Naval Strategy", *U.S Naval Institute Proceedings*, XXI (November, 1895), cited in : Margaret Tuttle Sprout, "Mahan: Evangelist of Seapower:", G.E. Thibault (ed), *The Art and Practice of Military Strategy*, (Washington D.C.: National Defense University, 1984) p. 129.
5. Mahan, *Naval Strategy*, (1911) Ibid., p. 129.
6. Admiral Stansfield Turner, USN, cited in : James Cable, "The Diffusion of Maritime Power", G.E. Thibault (ed), *The Art and Practice of Military Strategy*, p. 325.
7. Cable, p. 336.
8. Philip A. Crowl, "Alfred Thayer Mahan: The Naval Historian", Peter Paret (ed), *Makers of Modern Strategy*, (Princeton: Princeton University Press, 1986), p. 455.

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