

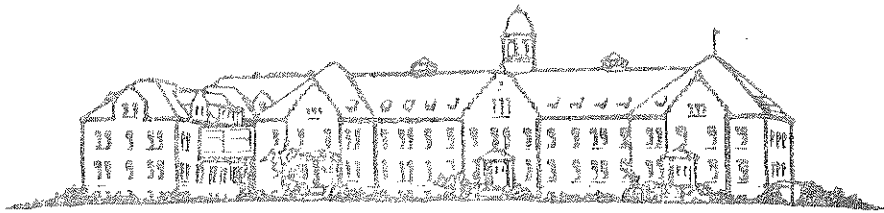
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THE UNITED STATES NAVAL WAR COLLEGE

PRINCIPLES OF SEA POWER

An address delivered
at the Naval War College
on 7 June 1955

by
Admiral Robert B. Carney, U.S.N.
Chief of Naval Operations



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NAVAL WAR COLLEGE
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FOREWORD

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L. D. McCORMICK
Vice Admiral, U. S. N.
President

PRINCIPLES OF SEA POWER

(THE FACTORS)

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PART I--INTRODUCTION.

Many things continually happen in the world that call for a continuing "new look" in the field of national strategy. Some of these changes, such as those in the scientific field, may evolve at a rapid pace; in the atomic age the ominous signs must be recognized for if men do not come to their senses, catastrophe will overtake us all. But in peace, uneasy stalemate, or cataclysm, the sea will be important--and it is of the sea and sea power that I would speak.

Before attempting to arrive at conclusions concerning the subject of sea power, the broad and eternal aspects of strategy must be considered; and, in the context of any particular period, the special factors must be objectively scrutinized. Also, one must give thought to the practical aspects of the land and the air as well as the sea, for each of these strategic elements has had and will continue to have differing effects on the life of man--differing economic effects as well as political and sociological differences.

The average man thinks of the era in which he lives in terms of its effect on him personally. He realizes with the coming of the air age that there has been a rapid compressing of time and space, that he can have dinner on one continent and breakfast on another, that a letter posted in New York can arrive in London within a matter of a few hours, that within the short space of a week-end he can cover the identical distance to Georgia that required 78 days of President Washington's time. He realizes that the airways have provided a benevolent highway and a direct road for attack. He realizes with the coming of the atom that entire cities and communities can be vaporized in a matter of seconds; and therefore, alas, the average man has come to think the world has been compressed in every way, possibly for man's ultimate good, or perhaps for his destruction.

But in some aspects of life, the world is still about the same size as it used to be. This is certainly true where sea commerce and sea travel is involved. Few people are aware of the millions of tons of goods that must be moved across the oceans of the world so that nations can produce and assemble the products of their genius and industry; and before there can be true comprehension of national strategy, or the significance of land, air and sea, one must look at the world as it is.

Regard the land for a moment.

The land is where we live. It is where our roads and rails are built. It is where our markets are found. It is circumscribed by some natural boundaries and many political boundaries. Vast quantities of food and minerals needed for life come from the ground. The affairs of man are rooted in the ground and controlled from the ground. But it is also closely related to the affairs of the sea and the air.

As man's terrestrial affairs are affected by the air, so are his air aspirations closely tied to the land and to the sea, for air communications always begin and end either on the land or on the sea. The airways provide man with rapid movement for the things that are needed quickly; they provide him a new dimension, a new avenue which affects his economy, his politics, and they can be used for defensive and offensive military operations. Man's pioneering in the air has greatly facilitated human communications, making it possible for him to have a keener and more comprehensive insight into today's fast-moving events.

I mention the significance of the land and air in preface because, although I will talk about the relationship of sea power to military and national strategy, sea power can never be considered in isolation or as a sufficient force

unto itself. We must continually bear in mind, however, that the sea is nevertheless a vital factor. It can no more be disregarded than the realities of the good earth can be dismissed from basic life and philosophy.

PART II--WHAT IS THE SEA?

With these things in mind, it is illuminating to consider what the sea means to man in his native environment.

To the South Pacific Islander, for instance, the sea is the home of his beloved outrigger, which assists him in taking food from the sea. It is his means of communicating with other Islanders living beyond the horizon. From the tales of his ancestors and from his own scars, he knows the seas around him have not always been friendly; at times, they have been violently destructive. He knows they can be used to his advantage, or that they can be turned against him.

The implications of sea power are not always so apparent to those who inhabit the very large islands and the continental masses; nor are the governing principles of sea power always understood by those who have not given the problem serious thought and study. To them, it is only when the struggle for the sea nears their coastline or when it threatens their homeland that the problem becomes realistic and comprehensive.

To the highly industrialized island, the sea has serious meaning; it is the vascular system of his industrial heart; it can be a means of trade expansion or commerce curtailment. It can bring happiness or it can bring despair. To any

and all nations, even those remote from the shorelines, the sea has a meaning: for the protection it can render, for the threat it can unleash, for the shipments of needed things, for the exported products for their profit and for the power bestowed by its control.

Knowledge of the sea, then, has rather logically become an instinctive characteristic of Islanders; the Britisher, for instance, the Japanese, or the Polynesian. Likewise, those who inhabit peninsulas such as Greece, Italy and Korea, have come to understand the sea's eternal influence. In fact, there is scarcely a government in existence today that does not, at least in some degree, recognize the importance of the sea.

Inside the United States, with her expanding economy and world-wide commitments, the sea's essentiality is re-emerging as a vital factor in the maintenance of her own standard of living, and improving the living standards of all those countries with whom she is associated in friendship.

Let us pause for a moment and take a brief look at what the sea means to the United States. Use of the sea is essential to our economic strength and to our continued prosperity. It is a highway over which both raw and finished products of the Free World can be exchanged, thereby encouraging international industrial expansion and growth. The

seas provide the United States an avenue over which she can project her military strength; it enables her to support and sustain armies and air forces overseas, both those of her own and those of her allies. The seas are an essential key to peacetime prosperity and wartime survival, and what is true for the United States is true for our allies as well. The bonds of the sea give courage, confidence and cohesion to peoples who band together for their welfare and their security.

If the sea is vital to the United States, think what it means to countries like England and Japan, who are completely isolated from the rest of the world by blue water. Think what the sea means today in Turkey: on her north, it helps to separate her from a hostile land; to the south, it is a tie to the Atlantic community. To them all, secure control of the seas in friendly hands could mean, in its starkest terms, to survive or perish.

What does the sea mean to Russia? First, let us cast aside any illusion that in this era we are dealing with the bovine mujik of song and story. We are dealing with a new Russia that has great mental and productive capacity. We are dealing with a new Russia that has learned many lessons over the years, some of them through bitter experience. One of the lessons they have obviously learned is that of sea power's enduring influence.

Soviet man, standing on the Arctic icecap that floats on the polar waters, could not fail to understand the vast strategic element which encircles Eurasia and Africa. He could not fail to see that it covers nine-twelfths of the globe; nor could he miss the fact that the Eurasian Continent with that of Africa, together, cover two-twelfths of the globe. Certainly, he must appreciate the critical importance of the sea to those people who are resisting the Communist ideology. All of the contemporary signs point to the fact that the Soviet leaders are very alert to the importance of maritime influence, as indicated by the apportionment of their national effort in this direction.

All things point to a Russia that is smart, relentless and swiftly-progressing, fully understanding that if it is to further its plans and off-stated objectives, it must develop a sea power capable of controlling those watery areas which are essential to the achievement of her self-prescribed tasks.

Thus, even from a hasty consideration of the sea's influence on the world we live in, we must conclude that it remains a vital factor in the affairs of men.

PART III--THE PATTERN.

The pattern of sea power has been faintly glimpsed from time to time in the past, but usually in narrow and parochial perspective. A few truly saw the practical applications, but failed to detect or codify the principles.

Themistocles once observed that "whosoever can hold the sea has command of the situation." Some 2,100 years later, Sir Walter Raleigh stated it in this manner:

"Whosoever commands the sea,
commands the trade of the world;
whosoever commands the trade of
the world, commands the riches
of the world and consequently
the world itself."

President Washington was quick to discern the importance to the United States of making provision for adequate sea strength. He stated that unless our overseas trade had some protecting force, it would always be insecure, and our citizens would be further exposed to the calamities from which numbers of them had just been relieved.

In Theodore Roosevelt's autobiography, he stated that in his judgment the most important service that he rendered to

the peace in his time was the voyage of the Great White Fleet around the world in 1907. Said he,

"The success of the cruise, performed as it was without a single accident, immeasurably raised the prestige not only of our fleet, but of our nation; and was a distinct help to the cause of international peace."

At times in history, it would seem as though mastery of the sea had been achieved almost accidentally and with little or no understanding of the principles involved. Some nations, perhaps, grew to maritime greatness--and so to world power--through a slowly expanding process of trade stimulated by individual merchants; others were forced into a realization of the sea's importance as the highway for exerting the force and pressure of their armies. A few--and a very few--individuals saw the light clearly and discerned the physical and economic laws involved. Such a one was Nelson, whose simple thinking concentrated upon the enemy's sea forces as the single and everlasting goal. Instinctively, he knew that the destruction of those forces, wherever he found them, removed the enemy sea threat and assured his own country's ability to use the sea with unhampered freedom to its own advantage.

It was Alfred Thayer Mahan, however, around the turn of the century, who made the first determined effort to inquire into the principles of sea power and to analyze its influence on geopolitics. From Mahan's inquisitive mind the world first was to learn something of the basic pattern, for he grasped sea power's influence on history and was astute enough not to confuse weapons with principles. It was his ability to keep his thinking unclouded by the limitations of the weapons of his day that leaves so much of his thinking still applicable to our present and to the future.

From Mahan's isolating of causes, effects, factors, and results emerged certain ever-recurring patterns which gave a clue to the existence of underlying fundamentals of universal application. And this was no mean achievement because, throughout history, there has been an endless and confusing interplay between economies and armed forces, between need and capability, between weapons and tactics--each in turn seeming to be a cause, and each at times appearing in the role of countermeasure.

A broad study of the complex sea itself, and its true meaning to mankind, reveals a great pattern--a pattern not unlike the combined effect of many transparent overlays. Finding the prime essential is difficult. But, the first cornerstone truth can be stated thus: though control of the sea is good for all who can benefit by it, determination of the needed

measure of control is the first step in harnessing this great power-for-good-or-evil.

There is no point to a nation acquiring more sea control than it needs in a given area at a given time. There are areas and sea lanes that are vital to a nation's interest; areas where there is an actual need for control. There may be other areas where mere denial of certain areas to the enemy, or temporary control will suffice.

Continuing to examine the mosaic, other elements of the pattern appear: national aims, national policy, the sea as a help or a hindrance, the tools to harness the sea or combat it. The picture is kaleidoscopic and requires patience and discrimination to sort out the factors, great discernment to detect tell-tale periodicities which give a clue to the current workings of principles; great objectivity to isolate and clearly state the fundamental principles.

PART IV--THE NECESSARY MEANS OF CONTROL.

The Polynesian does not think of the sea in the same terms as does the New Zealander, the Australian or the Japanese. Nor is the Polynesian forced to exercise the same measure of control as are the peoples and nations that constitute major political communities.

Whether the sea is viewed as a means of livelihood and survival, or whether it merely offers an opportunity for exploitation by smugglers and pirates; whether it provides a medium for wartime operations; whether it is an avenue of commerce and a source of raw materials--such factors determine the measure of sea control necessary for the community concerned.

We might reasonably conclude then that the degree of sea control necessary depends on desires and capabilities, need and courage, threats and resistance, appetites and weaknesses--all of the motivations of a nation interested in the matter.

Nor can geographic accident be overlooked in considering the necessary measure of sea control. For example, the chart reveals Japan to have a much greater opportunity than Germany for using the seas by virtue of her geographic placement. She has less restricted egress and entry. On the other hand, Germany is in a more favorable position with regard to

industrial self-sufficiency. There is every indication that the importance of geography will continue as we cross the nuclear threshold.

Prior to World War II, the necessary measure of sea control was thought of in terms of the various types, qualities and tonnages possessed by a given individual nation; in terms of individual national needs, inadequacies, desires and political climates. Latterly, with the signing of NATO and SEATO, plus all the bilateral and multilateral agreements throughout the world, sea control must be given collective consideration, with each nation contributing those strengths best suited to its technological, economic, political, military and geographic circumstances.

One country may be conveniently endowed with non-military maritime strength, another may be rich in mineral deposits, while still another may have specialized in building and operating combatant tonnage. Under the principle of collective security, the seas provide a catalyst for like-thinking nations to pool resources so that the little pieces may be fitted into a grand mosaic.

Together, the Free Nations are evolving a pattern of combined strength, variety and imagination which, it is to be devoutly hoped, will enable them to use the seas in the pursuit

of their common objectives and give them the capability of denying their use to any of freedom's challengers.

As it has been historically necessary for individual nations to derive their own concepts and measures necessary for control of the sea, consistent with their national aims and policies, so it is necessary today for allied groups of nations to think in terms of the feasibility and practicability of their combined aspirations.

PART V--THE DEVELOPMENT OF NATIONAL POLICY.

National policy is something that can not be defined in a sentence or a paragraph. Actually, it is the sum total of the many, many decisions made at the top level of government. Some of the decisions are broad in scope; many are small and technical. The United States has developed broad national policies with respect to matters affecting national security. National policies exist concerning such matters as immigration, tariffs, and foreign exchange. There are national economic policies with respect to certain regions of the earth; broad policies have been crystallized concerning certain nations. We have national policy on items that must be imported and exported; some of them may be of such importance that we would be willing to use military force to assure safe arrival. We have policies concerning detailed relationships with individual countries; and we have counter policies concerning national policies of other countries.

More recently, national policies have been made with regard to nuclear matters; decisions have been made concerning what items will be produced and what atomic information will be disseminated.

So it is with all nations. As the myriad national policies impinge on the international scene, some will result in mutually beneficial concepts; others will generate unpleasant

frictions; and frictions, if serious enough, can result in actual armed conflict.

A major United States policy is based on the precept that unity in the Free World will provide strength against the avowed objectives of international communism, and strength in turn will contribute to security. It is based on the belief that continuing efforts must be made to extend and strengthen the Free World morally, economically, spiritually and militarily. It therefore follows that many of the United States' national policies are associated with the basic interests of freedom-loving peoples everywhere--including the voiceless ones living in a spiritual vacuum.

Of great significance is the fact that the United States has no aspirations with regard to additional territory. She has foregone the booty of past wars and consistently has followed a policy of granting and fostering independence for other peoples. Her people have prospered under a system of free enterprise.

The ultimate objective of the United States Government is a genuine peace. By instinct, we would wish all men to have their God-given rights to enjoy a full and free life, and to enjoy the blessings of liberty and the pursuit of happiness; however, this noble wish may be in conflict with customs,

mentalities and racial traits attuned to different philosophies, perhaps better suited to needs in other parts of the world.

A nation, then, having settled on certain national policies, finds it is necessary to determine what can be done by way of accomplishment. This is the beginning of the formulation of a national strategy. When a nation is evolving a strategy, it must always ask itself these questions: What would the political community like to achieve? Are those objectives feasible in the light of existing conditions? Obviously, no nation should set goals for itself too far beyond its reach; that might well invite disaster. It should be noted, however, that as a nation's capabilities increase, it can extend itself a bit farther in the pursuit of its objectives; and, conversely, as capabilities decrease, ambitions must be curtailed.

National policy being actually an expression of those feasible and flexible programs for the common welfare, it is axiomatic that the strategy which implements policy never be static. Strategy accommodates circumstances, and circumstances are never static. Consequently, it should come as no surprise to find that military planners constantly review and alter their strategic concepts.

Often it is necessary, in determining a national policy, to make certain assumptions with regard to other peoples'

intentions as well as their capabilities. It follows that national planners and policy makers, if they are wise, will review those basic assumptions often and carefully. When Yugoslavia broke with the Soviet Bloc, it called for an appraisal de novo by all the nations of the Free World as well as those nations under Soviet control; now, a further review is in order. The creation of a Free Austria will have its effect on the national policies of many governments vis-a-vis this newly independent country.

Time precludes a review of the many, many chapters in the various strategies of a major power such as the U. S. We might say in broad and brief summary that the United States believes that a Free Europe is essential to the preservation of our way of life; that Southeast Asia, with its vast resources, must remain free; that a stabilizing balance is needed in the Far Eastern area to remove the fears and threats of expanded conflict there; that the United States must continue to contribute economic, military and spiritual support to Free Peoples to help them maintain their freedom in the common interest of all. And the free associates must continue to control the seas as a mutually binding agent.

It follows that if those broad objectives are to be achieved, there is implicit need to plot sound courses of action predicated on realism as well as idealism, and the

implementing policies will be the more effective if clearly understood by friend and foe alike.

Here is a most important thought: Just as it is difficult to hold a ship in position without way on, so it is more difficult to achieve a national objective which is nothing more than an attempt to maintain the status quo in the face of dynamic opposing policies. A nation or a race that is expanding and driving poses a hard problem for those that are striving merely to maintain stable conditions.

PART VI--MILITARY FORCES IN THE SCHEME OF NATIONAL POLICY.

What military forces do the coalitions of freedom need and why? They obviously need arsenals that would defeat our most probable enemy. Matching the Free World strength against his, we can only conclude that the Free World can not meet him solely on the ground even if we were content to fight the battle his way. He has nuclear potentials now; he has an existing and powerful army; he is building a navy which is of increasing significance in extending his area of control and projecting himself seaward.

In this hydrogen age the first thing needed is the power to deter--a strength so convincing that no enemy, however strong, could come to any conclusion other than that the surest way not to achieve his objective would be to start a conflict which would rubble all the things he himself had endeavored to build. That is the first requirement of our military strength.

Perhaps this will bring about no clear-cut decision, but even an uneasy balance is preferable to an all-out trial of strength. But suppose men fail the effort to prevent war. Then we must win it. It can only be won by convincing the enemy of the futility of his effort, by destroying his forces, by hamstringing his power, and by breaking his will to fight. To do this, we must prevent the spearheads of his efforts from

succeeding. We must prevent his armies from overrunning friendly territory. We must blunt his capabilities, both strategic and tactical. We must foil his efforts to cut our sea lines. We must put the vise on his own sources of sea supplies. Furthermore, we must take every practical step within our means to prevent an atomic attack from destroying the vitals of the United States, without which freedom could never win.

We must be ready to meet the holocaust, but there is no assurance that the holocaust will come and there is no justification for predicting that lesser conflicts will not continue to plague us.

The option may not be ours; we must be ready for a variety of contingencies. Consequently, we cannot assume that the atom as a weapon is a substitute of everything but must regard it as something additive. We must still retain the capability for dealing successfully with lesser aggressions which from the Communist could nicely add up to total conquest.

All this boils down to the need for a strategic air capability, a national air ability to deliver tactical atomic weapons by a variety of delivery systems, an army with atomic weapons to smash the human waves with which we might be confronted, and a navy which can project our power against the enemy regardless of the threats that may come from air and sea,

a navy that can meet and defeat any enemy threat advancing by sea. All of these things must be brought and maintained from the resources allocated to the military effort. ✓

Some of our military resources can profitably go to our allies, not as a give-away but as an actual extension of allied military strength. Within our own family, we must work out a good division of resources among the services. There is no single formula for it. It is a matter of sound judgment, long and thoughtful discussion, sometimes concession, with the emphasis falling on the absolute and unchallengeable necessity for surviving an all-out attack, and for wrecking the enemy's capability for delivering an attack from which we could not quickly recover. This point is made with a specific purpose. There can no longer be narrow and partisan thinking in the business of national defense; and, this is particularly true of the United States because of the unique position she occupies geographically and economically in the world.

Men can no longer afford to be blinded by fanatical, single-service, or single-concept thinking.

With the understanding that naval thinking must constantly remain in this context, we can examine into the place of sea power in the scheme of national policy.

PART VII--SEA POWER IN THE SCHEME OF NATIONAL POLICY.

After national aims have been determined, ways and means must be planned for their attainment. In certain areas, diplomacy may suffice. There will be others requiring a close examination into financial structures and perhaps into the delicate shades of internal political thinking; other objectives will require an examination into the availability of raw materials, production potentialities and the manpower situation, both qualitatively and quantitatively. In the event that military posture is involved, it must be decided if the essential forces can be maintained as a precaution against the chance of challenge.

It is scarcely possible to consider those facets of national power and policy without consideration of the future availability of sea communications. This is true whether giving consideration to the great pulsating pressures, thinking in terms of limited peripheral struggles, or contemplating all-out atomic aggression. The strategy of the Free Nations is inextricably tied to their ability to move freely on the sea and in the air.

There is need for both a maritime supremacy, and, if you like, an "airitime" supremacy of Atlantic waters; the Atlantic Ocean is the very essence of the Atlantic Alliance.

The Atlantic Ocean and its peripheral areas have twice been factors in the causes of war and in determining war's outcome. Without the ability to project and sustain military power in Europe, without the ability to build and support overseas bases and allied war industries, without the ability to exchange raw materials and finished products, such a coalition as NATO could not exist. It could never have been contemplated. Nor in Southern Europe could the Greeks and the Turks have joined the Atlantic Community without the assurance that the Mediterranean Sea could be bridged and effectively controlled by friendly forces.

When Greece and Turkey entered NATO, in February of 1952, their governmental leaders stated that their continued participation in the unfortunate event of hostilities would depend on resupply and support from the sea. A glance at the geography of the Mediterranean basin explains the importance which those nations attach to sea communications. Roads to sources of resupply are virtually non-existent, terrain is difficult and the land LOC easy of interdiction. Bulk transport can not be handled by air; and by far the greatest part of their requirements must come by sea.

The picture is no different if viewed from North Europe, from Denmark and Norway. Their future, and, yes, the future of Germany and Great Britain would be gravely

threatened without allied ability to control both the North and Norwegian Sea areas.

So it is, also, in the Pacific. The Manila Pact would be meaningless if there were no sea and air communications to help sustain the will of the peoples; nor would the Anzus Treaty have been meaningful; nor would the Chinats be able to maintain their government in Formosa; nor would courageous patriots from the Philippines, Pakistan, and Little Ceylon have been safely able to express themselves forcefully at Bandung in behalf of freedom's cause; nor could private investors have risked their funds in such places as the Belgian Congo in the development of overseas resources; nor could small countries like Guatemala be able to effectively resist Communist infiltration; nor could Japanese industry and ingenuity become a bulwark of freedom in the Far East; nor could South Korea maintain its freedom if Pacific Ocean supremacy had been in the hands of unsympathetic powers.

More specifically, let us consider the significance of sea power within the framework of global economic necessity. How important does the sea look through the eyes of the Japanese industrialist whose country in 1953 had to import more than four million tons of iron ore in order to meet the demands of her production schedule, who during the same year had to

import nearly five million tons of coal coke, and over five million tons of petroleum? How important does the sea look to the British who import virtually all of their raw materials with the exception of coal? How important does it look to the West Germans, the Italians, the Swedes or the French, all of whose imports exceed their exports? Certainly one can come to no other conclusion than that the economies of the major importers of the world would be disrupted if sea communications were broken.

The pattern of Soviet foreign trade is currently undergoing some change; there is a discernible trend in the direction of more and more business on the ocean highways. At the present time the Soviets are importing, as a matter of convenience to them, considerable transport equipment--especially merchant vessels. They are still going abroad for textile fibers and foodstuffs, and their machinery imports are heavy. Lately, the Soviets have stepped up their exports in such commodities as petroleum, grain, timber, furs, minerals and certain types of machinery. Within the last two years, for instance, Russian oil drilling machinery exports have appeared on the international market, and petroleum has supplanted traditional foodstuffs as the number one export commodity.

The Free Allies can not take their maritime supremacy for granted. This is not a partisan viewpoint. It stems from

information concerning Soviet maritime development, the implications of which are extremely serious. The continuing increase in Soviet maritime strength will surely give rein to further Soviet ambitions which, in turn, may lead to a more ambitious strategy.

The question of strength and strategy is a little like the chicken and the egg. Strength can encourage wide-thinking strategy and lack of strength can restrain it; on the other hand, a firmly determined strategy can lead to the creating of strength to support it. Nobody knows which came first--the chicken or the egg. Nor is it always clear whether strategy makes strength in the form of military forces, or, conversely, that military forces determine strategy; perhaps a little of both.

In the case of the Soviets, they are surely creating a large number of good naval tools and they are doing this with an objective in view. We can only assume that the nature of the objective is a broader mission for Soviet naval power; and perhaps they aspire to the one under which the U. S. Navy operates: to gain and maintain control of the seas and deny their control to any enemy. This may well be the ultimate Soviet aim. In the meantime, they have created a measure of naval power and they must accommodate their strategy to the maritime strength which they have been able to generate.

As yet, the Soviets do not have naval forces that will permit them to contemplate aggressive seizure of overseas territories. But they do have a building program that will permit them to extend their present strategy. As their training program improves, as their building program comes to fruition, and as they become skilled in the ways of blue-water warfare, their thinking will be materially affected by their increasing capability. Today, there can be little doubt that the interim strategy of the Soviet Union is one of controlling selected sea areas adjacent to their own coastal frontiers, and expanding that control as their resources and capabilities increase.

In certain areas there has already been an impingement on the potentialities of Allied Naval Forces for exercising maritime control. As an example: The Sea of Okhotsk, north of Japan. Here, with the support of nearby land bases, the Soviet's surface and naval air forces, combined with an extensive submarine potential, now have a substantial capability for challenging use of that restricted sea area by the naval forces of other nations.

This is not to say that Soviet military strength could not be challenged in that area. It could be challenged by aerial threat against their bases and forces; they could be challenged by resolute submarine operations. Perhaps, casting up the present relative maritime capabilities of the

Soviets vis-a-vis the Free Nations in that particular area, it might become a watery and uninhabited desert except for few rugged scouts and pioneers. But even that is significant because it signals a reduction in what was once a total and clear-cut allied sea supremacy.

A glance at the World Chart reveals other areas of growing Soviet naval power such as the Japan Sea, the Barents Sea, the Black Sea, and, of course, the Baltic. By judicious positioning of their forces, the Soviets could pose some threat to the freedom of action of Allied Forces in Asiatic coastal waters.

Soviet submarine capability introduces the possibility of at least intermittent extensions of military maritime influence beyond their coastal waters.

While it is true that these new areas of Soviet maritime interest could also be made difficult for the operations of Soviet Naval Forces to the point of neutralization, the very fact of need for such neutralization is indicative of the lessening of the world-wide margin of superiority of the naval forces of the Allies. This fact, unpalatable and startling as it is, should put an end to complacency. It must be ever present in our thinking and planning for the present and for the future. It must be appropriately

reflected in our plans and in the additions we make to our inventory of ships, weapons and planes.

Specifically, I would point out that although the strategy of the Atlantic for the moment appears to be fairly stable and well understood, there is a need for the greatest vigilance in the determination of our strategy in the Pacific because of the creeping reduction of the maritime differential. There are scores of millions of friendly Asiatic people whose very existence depends on the sea. We must not risk the development of a situation which could eventually challenge our control of any of those Pacific sea lanes essential to allied security and cohesion. A steadily increasing Soviet maritime power constitutes a threat to that security and cohesion.

This era is reminiscent of the thirties when it dawned on our country that a two-ocean navy was urgently needed.

Our maritime commitment to NATO and the realities of the Pacific situation again establish the requirement for a two-ocean concept--this time on a broader international base. At the moment, the U. S. is juggling forces from the Atlantic to the Pacific to meet the exigencies of both oceans. But the existing U. S. Naval Forces are not enough to meet the instant and urgent needs of a global war. If the tragedy of a total war should confront us, we would need a greater capability than we

have in order to meet allied requirements in both oceans.

Soviet expansion in the Pacific is not limited to the maritime field. There has been a vast amount of economic expansion in Eastern Siberia so that, today, the Soviet Union is achieving a more nearly self-sufficient status in an area that has access to Pacific trade routes. This is food for Americans to contemplatively chew on and to digest slowly.

In the northeast area of Siberia, the Soviets are reported to have on-the-spot access to such minerals as antimony, lead, zinc, tungsten, sulphur and bauxite. There are strong indications that in this sector they may be digging uranium as well as pitchblende, which is another source of uranium as well as radium. Substantial coal resources have already been found and developed to provide much needed fuel and local power for industrial installations.

And, what is also of significance is the fact that in this curtained land area, large gold deposits have been found. As a result, there has emerged on Siberia's northeast coast an entirely new city by the name of Magadan. Populated mostly by slave laborers, it is probably the world's fastest growing city. Two decades ago, the area was inhabited only by native fishermen. In 1949, the population had grown to about 50,000. Four years later, it had grown to 100,000, and, according to the Soviet

State Institute for City Planning, construction plans anticipate that the city will have doubled in size by 1963. The Magadan seaport offers one of the best sheltered harbors on the Sea of Okhotsk. It has depths of 36 feet and will allow free-swinging anchorage for over a hundred naval vessels, including combatant ships of the very largest types.

While the spotlight is on the Soviet Far Eastern potential, perhaps a note should be made of the city of Komsomolsk and the Amur shipyards of the city, which were established in 1932. Within two years from the time the city was established, limited shipyard production had begun and full production was underway five years later. The Amur shipyard is now the largest producer of new construction in the Far East and has already built heavy cruisers, destroyers and submarines.

In addition to its shipbuilding capabilities, this city produces ships' steel; it has an arsenal and factory that produce diesel engines as well as machinery spare parts. Thus, we find that today the Soviet Union has in embryo on her Pacific coastline all the basic ingredients for economic growth and maritime achievement; and, although there is much yet to be done, they are building cities, factories and shipyards in a geographical area where they have access to the open oceans; where they have protected harbors; where they have already found an abundance of natural resources, and apparently are continuing to make

new discoveries. We know that, nationally, they are gaining technical competence; although much of their labor is slave, they have it in abundance. All of the signs would indicate that the Soviet Union has every intention of developing her full power potential in the Far East, and that sea power will play an ever-increasing role in the scheme of her national policy.

If the sea is becoming increasingly important to the Soviet Union by reason of her economic expansion and political objectives, it is no less important to the United States because military security and economic interest are involved.

Americans find it difficult to believe that the United States is not now and, in fact, never has been a self-sufficient nation; as far back as our country's beginning our merchants needed foreign trade in order to expand and prosper; prior to World War II, the production of an American automobile involved the importation of basic ingredients from 60 different nations; of the 77 strategic critical materials needed by the United States, she can regard herself self-sufficient in only 11.

For instance, how many Americans realize that much of the chromite used in jet engines, gas turbines, gun barrels, armor plate and ammunition came from far-away Southern Rhodesia, the Philippines, Yugoslavia and Turkey? How many people stop to

think that much of the manganese (this, incidentally, is a highly critical item; steel can not be produced without it) comes from Africa and India? Lack of mica used as insulation for electric wiring could seriously cripple our electronic production and retard military operations. Most of the mica comes from India and Brazil. Until and unless we can develop adequate domestic sources or substitutes, the problem remains.

I underline these products because they are vital in the construction of naval weapons--vital for today and even more vital for tomorrow. Newcomers like the Submarine NAUTILUS, the Carrier FORRESTAL and the Destroyer JOHN PAUL JONES would not be with us today had our country been unable to import from overseas.

There are other critical materials, of course, which are vital to our peaceful civilian economy as well as to our war industries that must come to the U. S. via the sea. More than sixty per cent of the antimony, for instance, required to harden metals for engine bearings and used in the manufacture of bullets and storage batteries come from countries in South America, South Africa and Europe. Amosite, needed for the production of asbestos which is used as a light-weight, steam-resistant turbine insulation of naval vessels and for which there is no substitute, can only be found in the Union of South Africa.

Nearly seventy per cent of the bauxite used in the production of aluminum comes from overseas, from South America and from far-off Indonesia. United States' dependence on foreign bauxite continues to increase.

Other mineral deficiencies include cobalt, used in the manufacture of jet engines and gas turbines; columbite, used in the production of stainless steel and refinery equipment; tantalite, used in heat resistant super alloys for jet aircraft and guided missiles and very important in electronic equipment, cutting tools, guided missiles, jet aircraft. All these things must be imported in quantity from overseas.

In the President's Economic Report to Congress on January 20th of this year, he anticipated a continuation of the economic expansion of the United States. "With wise management of the national household," said the President, "our country can within a decade increase its production from the current annual level of 360 billion to 500 billion dollars with figures expressed in dollars of the same buying power."

In contemplation of such economic expansion, it is interesting to correlate some facts issued by the President's Materials Policy Commission in June of 1952. The Commission concluded that the United States had outgrown her source base and that there was a rapidly growing deficit in certain

materials, that in the event of war the deficits would rise abruptly. It went on to say that the U. S. was becoming increasingly dependent on overseas sources for such basic materials as iron ore. In fact, two of the major steel producers in the United States are already building huge plants on the Eastern Seaboard looking ahead to the day when most of the iron ore will of necessity be coming from such overseas sources as Liberia, Venezuela and Labrador.

Trade expansion is vitally related to sea power in the scheme of U. S. national policy. Both exports and imports have more than doubled in the United States since pre-World War II days. Since World War II, the United States has committed herself in varying measure to the assistance of some 64 nations of the world, spanning six continents and three oceans, and constituting about 54 per cent of the world's population.

I repeat that all of the American dollars and human effort being placed in overseas improvement and development for our trans-ocean friends would be lost if we lost our ability to use the seas. Likewise, all the investments that have been made in overseas air bases and army installations, both for the use of the United States and for the use of our Allies, would go down the drain if sea transport were not available to sustain them.

The economy and the efficiency of sea transport in our day is implicit in the recently-approved plans for the Great Lakes-St. Lawrence Seaway extending the ocean highways to the very heart of the North American Continent. This seaway will provide an alternate route for low-cost, mass-movement of raw materials and finished products. It will provide convenient access to shipbuilding facilities and ship repair facilities in relatively secure areas.

Such projects as these indicate the faith of the private citizen both in the United States and Canada in the future use of sea communications.

In light of the foregoing, one can come to no other conclusion than that sea power's influence is growing in the affairs of man everywhere. And as the atomic era dawns, bringing with it both beneficent and destructive atoms, perhaps the greatest golden age of sea power is yet to arrive.

PART VIII--SEA POWER AND THE OTHER FACETS OF MILITARY POWER.

Although this discussion focuses on sea power, it should be borne in mind that sea power is but one component of national strength. It is one of several potent military elements integrated into this thing we call "national power."

Strength at sea, although tremendously valuable to the nation possessing it, is not sufficient unto itself to provide national security. Sound security must be built of many materials--maritime power, air power, land power, industrial power, and the power of human intellect and will--all mutually supporting in a common effort. Furthermore, there is every indication that it would take more than any single nation to win a major struggle in this complicated age. Victory in such a struggle would require the combined resources and will of resolute Allies as well as a powerful and vibrant United States.

One of the characteristics of maritime power is its flexibility. A versatile fleet can undertake, at least on an interim and partial basis, tasks that would be assigned to other forces were they available. For instance, in Southern Europe today, much of the allied tactical air capability is being provided by the United States SIXTH Fleet. The SIXTH Fleet is in no sense a proper substitute for a land-based air organization in concept. But, because of national budgets and economic stringencies, because of the political implications of

deploying forces within other borders, the SIXTH Fleet's air contribution is valuable as the only available substitute for indigenous tactical air augmentation. The fact that it has nuclear capabilities, of course, gives it an added potential.

Additionally, the SIXTH Fleet is not only a military force, but is a political manifestation of United States willingness and ability to assist in keeping the sea lanes open and providing direct air support in the Mediterranean.

Sea power gives the other facets of military power an added versatility and flexibility. It increases ability to seek out the enemy on favorable terms. Also, unfortunately, sea power introduces an element of global threat in the hands of those bent on aggression. As long as the Soviet Union was purely a land power with air and naval power components limited to World War II capabilities, her shadow lay over her immediate continental neighbors but did not constitute a threat to the Western Hemisphere. Now her offensive air capabilities and increasing naval strength are widening the horizons of militant international communism. The significance of Soviet sea power lies in the fact that it opens avenues for consolidating any effects attained from application of her long-range air striking capability. This should be apparent for it clearly parallels our own military understanding and philosophy.

Actually, the elements of military power must all be closely integrated and united for they are as mutually supporting as they are dependent upon one another for success.

PART IX--THE TOOLS OF SEA POWER.

We must conclude then that retention of general sea supremacy is imperative if our national and international ambitions and policies are to be realized. We must also conclude, as a corollary, and however reluctantly, that complete and absolute sea control is probably unachievable at this time; and, therefore, that some selection must be made as to the control measures to be undertaken. The self-imposed limitations and calculated risks involved will reflect and be reflected in national policy, the final determination being the types and quantities of tools that can be made available for the mission and tasks accepted.

The business of planning the tools of sea power requires laborious and painstaking study and research. But there are exciting implications about navies of the future regardless of nationalities. Never in the history of seagoing have there been such stimulating prospects and opportunities as lie ahead of us today.

The young sailor who is beginning his naval career is to be envied, for before him extends a vista of unrestricted scope, offering unlimited play to imagination, challenging the best that mind and body can offer. The uncanny production of power from a curious little mass of radioactive material; guided missiles unerringly searching out and destroying

attacking aircraft; the breathtaking potentialities of a nuclear-powered fleet; the wizardry of electronic computers helping us to solve problems beyond the capabilities of the most brilliant human intellect--these scientific miracles are bringing into being naval concepts both challenging and exciting.

Planning the tools of tomorrow involves much laborious study; but there are certain factors that can be understood by laymen and factors in which the layman would be interested. The tools of sea power will always depend on two fundamental factors: the tasks which a nation knows it will originate in support of its own positive national strategic policies and objectives; and the tasks which will be imposed by an enemy's aims and capabilities. It is difficult accurately to estimate a potential adversary's intention. However, if familiar with some of the elements of the potential troublemaker's strength, one can do some calculating as to his capabilities; and, having arrived at sound conclusions concerning enemy capabilities, it is possible to develop counter plans and countermeasures.

In order to fashion the tools of sea power, then, there must be a sound understanding of our national peacetime objectives, the objectives of friendly competitors, our objectives to be sought in the event of hostilities, and the probable objectives, capabilities and intentions of those whose aims and ideas are assumed to be in potential conflict.

After government leaders have made these determinations, they can begin to fashion a philosophy of defense and offense, and, in the case of maritime strength, to sketch out the types of ships, aircraft and facilities needed and the characteristics that must be built into weapons.

For example: With what is known about Soviet submarine capabilities, the United States and her Allies can do some very realistic planning. We know that submarines can be got at in different ways. They can be destroyed at the source which, of course, involves projection of maritime power from the sea. They can be intercepted at their points of egress from their various naval bases around the globe; they can be intercepted en route to their targets, which involves detection and attack before they reach convoys or other objectives. Or it may be necessary to fight off the submarine after it reaches attacking position; this involves close-in protection of ports and convoys. Thus, we see the need for mining operations, killer submarines, convoy escorts, hunter-killer forces, carrier striking forces, and such passive defense measures as may be required. Further study gives a good indication as to how many tools will be needed, what sort of weapons, the types of radar and sonar, and so forth. This, of course, is but one facet of the maritime problem; but, in like manner, it can be determined what is needed in the amphibious field, mine warfare, aerial reconnaissance, continental defense, and other areas.

Continental defense, incidentally, has always been a specialty of the United States Navy, and, today, the Navy has certain new responsibilities and contributions of great significance.

Continental defense involves more than defense against an intercontinental bombing attack. Submarines have a potential for attacking our territory; they can be equipped to carry an assortment of weapons, including aircraft and guided missiles with nuclear warheads.

In this era, the United States must face up to the danger of surprise attack on its homeland, for the protection of our vitals is essential to the very survival of our Allies as well as to our own welfare.

The sum total of the consideration of all of these factors ultimately expresses itself in the size and composition of forces to be kept in being, the reserves of people, weapons and supplies to be kept in readiness, the annual costs, and the plans for a mobilized populace and economy. The Navy's share will be balanced against other military and economic needs.

The Navy will be required to protect sea areas vital to the United States and to allied interests both before and, God forbid, after the atom. The Navy will need forces to support national commitments overseas, to render active combat

support to sister services, to launch and intercept guided missiles; in short, to perform any military task that can be effectively projected from blue water.

As pointed out before, the answer will be different for every country by reason of its geography, its economy and its neighbors--friendly and unfriendly. The problem of the United States Navy is perhaps the most complex of all and therefore affords the best subject for study.

What does the United States Navy need to carry out its roles and missions? What does it need in order to carry out its commitments to the military forces and economies of our Allies? Where will navies be required to fight? What will they be required to do? From the answers to such questions, we derive a fleet composition made up of carriers to carry the air war to regions otherwise inaccessible, carriers configured for operations against enemy submarines, forces for the protection of shipping against all the threats that can be brought against the convoys, forces for the interdiction of enemy effort by mining, amphibious forces, forces to counteract the threat of enemy mines, complex communication arrangements, submarines for the tasks that they perform including the interdiction of enemy submarine effort, and platforms for the launching of guided missiles.

A wise nation or coalition will never place exclusive reliance upon any one concept or weapon. Nor can the exercise of sea power be assured by navies lacking versatility. The gun and its associated projectile; the submarine and its torpedoes and missiles; the airplane equipped with bombs and rockets; combat surface vessels, transports, merchant marine and amphibious craft--all are needed to produce a balanced and integrated naval force capable of fulfilling the global missions of sea power.

A nation that possesses the appropriate elements of sea power can move about on three-fourths of the earth's surface and can affect in some measure man's life in many parts of the globe. It can concentrate power in critical areas; it can shift the strategic center of gravity of wartime operations, and can be troublesome to the ambitions of would-be aggressors. The tools must be kept up to date. Weapon obsolescence could lose the sea campaign before it starts, and we can not take our technical supremacy for granted. The need is for continuing wise modernization along far-seeing lines to the end that the sea link of free civilization never be broken.

PART X--THE PRINCIPLES.

The complexities of sea power render discernment of its principles difficult indeed. This is true both of the major universal principles and the minor principles of limited application.

It is basic to say that national strategy is not an exclusively military term for it derives from all of the strengths, the pressures, the weaknesses, the capabilities, the limitations of the body politic and its relationships with others, in times of peace and in war.

It is also proper to conclude that sea power is affected by a nation's financial means, by its manpower in terms of quantity and quality, by its industrial capacity, by its governmental philosophy, by its natural resources, and by the measure of its total power.

We may also conclude that for the foreseeable future the bulk of men and materials that move around the world must be transported by sea.

Sea commerce is of some importance to practically every community throughout the world.

The classical principles of war--the principles of mobility, surprise, concentration, economy of force--all have

an obvious place in the use of sea power. And, today, there is another principle emerging--that of dispersal. These principles have strategic as well as tactical meaning, and the strategic application involves functions and policies beyond the scope of military responsibility.

In the spirit of modern thought it must be borne in mind that the classical principles of war were first enunciated at a time when movement was comparatively sluggish and logistic support was undertaken at a comparatively leisurely pace. With the compressing of time and space, countermeasures, deterrents, and effective retaliation give new meanings to the classic principles even if they do not cancel them.

After sifting out the lesser rules and beclouding factors, there seem to be but two great basic principles governing the political-military science of sea power.

First, every nation depending in any degree upon the use of the sea for its economy and security must ensure to itself that measure of sea control which is commensurate with its needs and resources.

Second, control of the sea is not an absolute function in that it only involves the insurance of the degree of use required, and the denial of specified functional use by

unfriendly or inimical nations or groups of nations.

These two fundamental principles are reflections of national policy, for sea power can not be considered in isolation.

With regard to the minor principles of special and selective application, it can only be said that each case requires special analysis and the answers must be derived from the existing pertinent factors.

PART XI--CONCLUSION.

In concluding, it is necessary again to speak of the "new look" referred to in the introductory remarks. It is the part of wisdom to maintain a continuing "new look" at the changing affairs of the world, but it is equally important that the ^{short-lived} ephemeral solutions to ephemeral problems be not hastily interpreted as invalidating principles.

Changes in political alignments and scientific innovations will always necessitate rapid shifts of power and method as interim measures for offsetting advantage and maintaining balance; this interplay of measure and countermeasure, weapon and counterweapon, will frequently be so radical in character as to momentarily obscure the fundamental underlying principles. In no case or situation is this more true than it is of the sea.

The varying moods of the sea have forced men to many expedients to harness its resources and ward off its dangers, but a few and immutable principles of physics underlie all of the structures that man has built to derive a safe living from the sea. The same relative simplicity underlies the science and art of sea power. Beneath and behind the myriad special problems that confront the peoples of the world in the realm of sea power, there are but a few great fundamentals; and no matter how complicated the special equation may be, its

solution depends on an understanding of those fundamentals.

The greatest fundamental of all is that until and unless the seas dry up man will be confronted with problems of achieving his own crossing and denying the crossing of his enemy, for nowhere in the future can be discerned any total substitute for the great highways of the seas.