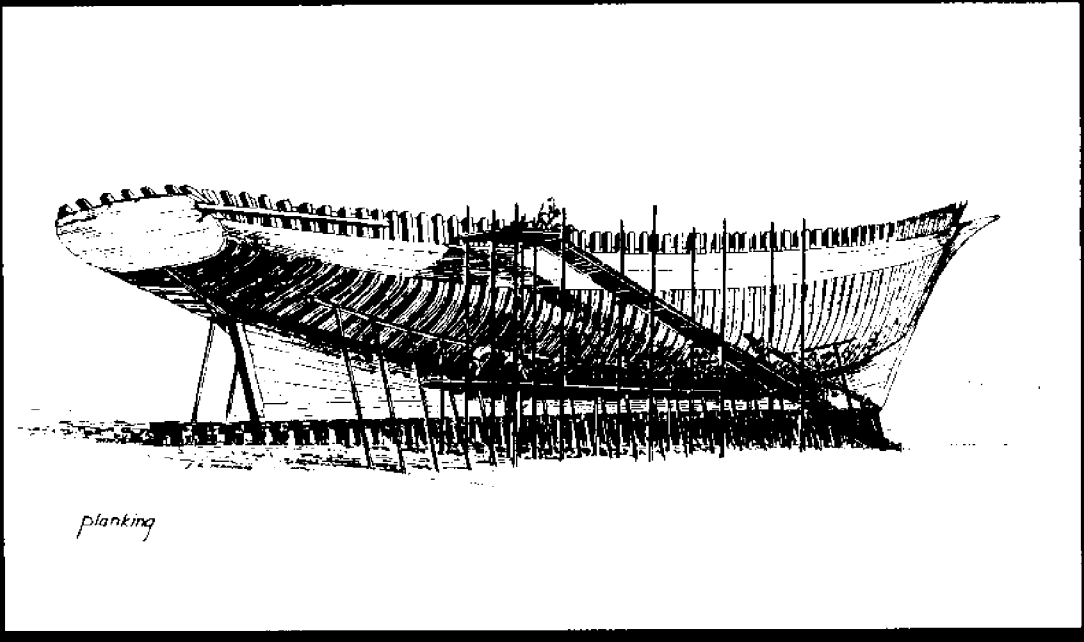
1973 SEMINAR IN MARITIME AND REGIONAL STUDIES

UNIVERSITY OF MAINE AT ORONO

Edited by Clark G. Reynolds and William J. McAndrew



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1973 SEMINAR IN MARITIME AND REGIONAL STUDIES PROCEEDINGS

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Full Audio Transcriptions
deposited with the Northeast Archives
of Folklore and Oral History, Department of
Anthropology, University of Maine at Orono
Accession Number 795

This publication is a result of Marine Advisory Services sponsored by NOAA Office of Sea Grant, Department of Commerce, under Grant No. NG-40-72. The U. S. Government is authorized to produce and distribute reprints for governmental purposes notwithstanding any copyright notation that may appear hereon.

UNIVERSITY OF MAINE PRESS
ORONO, MAINE: 1974

CONTENTS

"The North Atlantic Strategic Pivot"

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Lyman, John, Mrs.		
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McAndrew, William J.	Professor	University of Maine at Orono
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Preston, Adrian, Mrs.		
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Snow, Ralph L.		Bath Marine Museum
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Tallman, Julie		
Taylor, Roger C.	President	International Marine Publishing Company
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Introduction

Hoping to broaden the scope of our 1971 Seminar, which had considered the theme "Oceanic History of the 19th Century," and to reflect the manifold issues now relating to the global water environment, the New England-Atlantic Provinces-Quebec Center and other units of the University of Maine—with special financial support from its Office of Research and Public Services—decided to convene a second conference focusing on "the North Atlantic Strategic Pivot." We invited a wide diversity of speakers to address their remarks not so much to specialists in their own areas as to those in other subspecialities relating to the sea, hoping to create a meaningful general dialogue among those who have some interest in the sea—past history and present. We think that we succeeded, if not in solving certain vital problems, then at least in formulating some of the more important questions and alternative approaches to solutions.

These *Proceedings* are the record of our meeting, both of which were produced through the assistance of many people. We are especially grateful to the contributors, both for their initial papers and for editing the oral transcription. In particular, we thank the United States Naval Institute for sharing its 100th anniversary with us by its presence and in the form of gifts for all conferees: the October 1973 Centennial issue of the Institute's *Proceedings*, a facsimile edition of the 1802 *U.S. Naval Regulations* and the 1973 *Bluejackets' Manual*. Book displays and publications exhibits were generously provided by the Naval Institute, the U.S. Navy and Marine Corps historical offices, the International Marine Publishing Company of Camden, Maine and the Ira C. Darling Center Marine Laboratory of the University of Maine.

Thanks for the funding of this publication are due the Cooperative Extension Service Sea Grant Project administered from the Darling Center. And special thanks go to diane a. henry who transcribed these proceedings at the Northeast Archives of Folklore and Oral History, University of Maine at Orono, wherein the tape recordings are deposited, and to Ruth Harper of the University of Maine History Department who typed the edited transcriptions.

Clark G. Reynolds
William J. McAndrew

University of Maine 1971 Seminar in Maritime and Regional Studies

The North Atlantic Strategic Pivot

McANDREW: On behalf of the New England-Atlantic Provinces-Quebec Center here at the University of Maine in Orono, I'd like to extend my welcome to all of you for coming in. It's so good to see so many old friends from our last gathering and to see some new faces, and I hope over the next two days that we'll have enough time for both formal and informal contact to exchange ideas, pleasantries and other matters. And I thank you also for bringing the extremely pleasant day. After yesterday we were rather worried—and the legacy of yesterday is still at the back of the room in the buckets. *(Laughter)* If anybody has model ships to float they're welcome to do it, or perhaps we can call on some damage control experience later on. I'd like to introduce, for some introductory remarks, the president of the University of Maine at Orono, President Howard Neville.

NEVILLE: Thank you very much, Bill. I must confess that when I came into the room my attention was called first to two or three of you and then to the books and the displays at the back of the room. Then finally my attention—several people were very sure that I had missed it—was called to those two buckets that were back there. And I said that I will have to do something about that. I guess that there are some things a president can do for a university and there are some things he can't do; I guess the only thing that I've really learned so far that I can do is that I can move my desk from one side of the room to the other. I've met with a number of faculty, student and alumni groups, but that's the only thing that I've been assured that I can do without going through a faculty committee. *(Laughter)*

My pleasant assignment this morning is to welcome you who have gathered for this conference on the Maritime and Regional Studies entitled, "The North Atlantic Strategic Pivot." I'm a newcomer to Maine; I think that today will mark the end of my first month here. While many of you have had long-time associations with the state so there's some irony in my welcoming you to this conference. Many of you know already that the first week of October is Maine's most splendid time of the year. The splash of orange and reds and yellows are most beautiful during this week. Apples are in the cider presses.

our coast line is shrouded with morning mists each day, and the fisherman feels that occasional chill that indicates the severe cold of the winter ahead. Some of you have lived this season many times and know its beauty and its portent, its promise and its dread. The cycle of life is manifest here at this time, in this place as on few other occasions.

The North Atlantic is indeed a strategic pivot for the North American continent. A list of topics for your workshop on the ocean resource is itself an implicit catalogue of critical economic and social arguments for giving greater attention to the North Atlantic as a fundamental natural resource for this continent. Your sessions on Anglo-American naval traditions should provide provocative discussions on the distribution of naval power in the North Atlantic, especially from an historical point of view. Even the most casual reader of world history learns quickly that economic and social interests rarely survive in a vacuum of military strength. Finally, I can think of few cultural activities likely to be more beneficial to our state and region than maritime preservation. And I hope your workshop in this area is particularly stimulating and a productive one.

My use of the phrase "Maine and the Region" reminds me that this conference, this meeting is sponsored in part by the University's New England-Atlantic Provinces-Quebec Center. I'm especially pleased to see the United States and Canadian experts on the various panels. I've not come to the University of Maine to make hasty judgments about where we should lay heavy stress in our academic enterprise. However, fairly close and long personal relations with professors A.J.M. Smith and Russell Nye at Michigan State University, both articulate and effective scholars of Canadian-American concerns, have given me one academic prejudice: I think we here at this university should seek high distinction in the field of Canadian-American studies, especially with respect to the region suggested by the title of our New England-Atlantic Provinces-Quebec Center. As you experts gathered for this conference know far better than I, this area of study, potentially of great value to both nations, has been too long neglected. I hope we, at the University of Maine at Orono, can play a leadership role in remedying this neglect. I wish you success with your conference, I congratulate you on your choice of site for it and the distinguished roster of attendees. On behalf of the University of Maine at Orono, I bid you welcome. Thank you very much. *(Applause)*

REYNOLDS: Good morning also. I'm Clark Reynolds as most of you know and I'm happy to see that after some of us were able to break the

ice last night, that most of them are here this morning; I hope the rest will straggle in before too long. I wish more of you could have joined us—apparently my note was unnoticed in the local motel—but I can guarantee, as Bill will point out later, we have other festivities. The conference is young. This does not turn out to be, as we thought in May 1971, the Second Annual University of Maine Seminar in Maritime and Regional Studies. But the University of Western Ontario, with its conference in 1972, took the number two spot. So maybe we can call this the Third Annual affair, and maybe hopefully someday we can actually get an annual rotating conference. And maybe new university presidents can help fund such projects. *(Laughter)*

History and the Sea

Clark G. Reynolds

Not long ago, certainly less than a decade, a commonly accepted notion was that the sea had been largely surpassed as the chief medium of bulk transport by the air, that the ocean had ceased to be a principal area of international rivalries, that navies had become generally obsolete, and that historians of the sea belonged to a small clique of buffs who spoke a language unfamiliar to laymen and outside current fads in history. None of these assumptions is true—neither then nor now. What is more, a full appreciation of the interrelationships between man and the sea has become a pressing concern closely related to the very survival of the human race—and other species on this planet.

But it has always been this way. True, the *existence* of the race has not depended on its affinity to the sea. Notice, however, the timing of its affinity to the sea. *Homo sapiens* (or Cro-Magnon Man) flourished first some 40,000 years ago and the first river civilizations along the Nile, Tigris and Euphrates and Indus rivers only by 4000 B.C. But the pace did not quicken until men took to the sea, to share ideas as well as wealth. At first, it was unimpressive: from 7500 B.C. we know of obsidian trade throughout the southern Aegean Sea. But by the beginning of the second millenium B.C. things began to happen. First the Minoans began to connect the ancient world from their palace/port centers on Crete, followed by the Mycenaeans of southern Greece, then the eventual emergence of Periclean Athens in the 5th century B.C.

Athens developed a culture of unparalleled vitality which conquered the subsequent Alexandrian and Roman empires, which however could only imitate it crudely. Only when genuine seafaring peoples rediscovered the ancient Greek ways could dynamic progress be made in civilization. Thus did the Italian Renaissance of the 15th century A.D. accompany the merchant and war ships of Venice, Florence and Genoa on new fields of human endeavor. In the employ of Spain, the Genoese Columbus discovered new physical worlds that promised new intellectual challenges. Those new ideas were fostered by the seafaring Dutch and English who set the example for other peoples to follow.

Man has *survived* without ever turning to the sea. But only when he has set forth upon the waters has he been driven to new heights of achievement. The sea, then, has been a *catalyst* for progress and change, without which "civilization" in its fullest sense would not survive. The sea, past and present, has provided food for bodies and minds: it demands our fullest attention.

I further submit that the sea has, throughout history, been a major unifying element among the peoples of the race, and that therefore human endeavor upon the sea has been a good thing. Let us look at the illustrations of this:

First—In the commonest area of language, the sea has provided a vehicle of communication. From the Phoenician efforts at trade one thousand years before Christ evolved the phonetic alphabet which is the basis of most languages today. By the same token, the ships, colonies and trade of the long-thriving British Empire—and its powerful offspring, the United States—have spread the English language until it is the most common language among nations today.

Second—Literary traditions based on spoken records have led to a fascinating poetry of the sea, from the Homeric epics and Norse sagas to the novels of C. S. Forester on Hornblower, Herman Melville on Billy Budd, and Nordorf and Hall on the *Bounty's* trials: men against the sea and each other that forms a key ingredient of the Western literary tradition.

Third—Seafaring has always required skills—at the technology of shipbuilding and the ability to navigate by the stars, for the first sailors as for the present ones. Communications satellites and computers only refine this requirement, and navigation at sea forms the basis of aerospace endeavors. Maritime travels have thus demanded advanced technology, science and mathematics throughout history.

Fourth—By the same token, human curiosity has found its greatest outlet upon the sea, one example being Thor Heyerdahl's *Ra* voyages early in the present decade which speak volumes also for the earliest seafaring men. Exploration of new frontiers by sea proceeds apace today in the deepest realms of the oceans and the vastness above it. The recovery of our spacecraft at sea comes naturally to a people which contributes materially to human effort at sea and in the sky.

Fifth—The need for human fuel—first food, then raw materials—has usually been the first move of a primitive people upon the waters. Some, like the Polynesians, have never quite progressed beyond this fundamental need, but others have expanded their fishing into overseas trade of it until their whole economies have depended to

a great extent upon it—Japan and Russia are good modern examples. Undersea mining, aqua-culture and the harnessing of the tidal energies are only some of the latest attempts to exploit the sea for its material riches.

Sixth—The accumulation of wealth has been led by maritime nations which have been able thereby to afford the patronization of artists and philosophers, not to mention the appropriation of surplus monies to the relief of the poor and other humanitarian needs. Without such monies, nations can only regard such efforts as these as luxuries. Wealth raises the overall standard of living and not just for the few merchants or kings. This was true in Athens; it is true in the United States.

Seventh—Consequently, seaborne effort has been a cosmopolitan endeavor, spreading ideas, promoting the interchange between cultures and beliefs. Universal historians like H.G. Wells and William H. McNeill have seen this in the past civilizations, and human engineers for the future see its influence today. For example, Buckminster Fuller—a sometime resident of Maine—saw the seafarers of the Renaissance as the first real "world-around" men, comprehending the planet as a synergistic whole; he therefore can understand this planet as "the spaceship earth." His use of the word "ship" in this regard is not merely rhetorical. Peoples confined on board the finite space of a ship have always been accustomed to appreciating fully the limits of their immediate ecosphere.

Eighth—Closely related to this fact is the respect of seafaring peoples for the sea, for nature and the raw elements—so that the Greeks could worship a god like Poseidon (translated by the Romans into Neptune), a powerful entity to be held in awe, served and obeyed. Today, the delicate natural balances of the ecosystem that is the ocean can be ignored or defied only at the peril of the survival of the race. Either we honor that balance, or like the landlubbing Romans we hold the elements in contempt or only for the pleasure of our splashing in the surf. The sea demands so much more than that.

Ninth and finally—Seafaring peoples have always been legalistic in the extreme, ordering their traffic by codes of maritime statutes and admiralty courts upon which international law has emerged. In the midst of political upheaval and wars in the Eastern Mediterranean in the 2nd century B.C., only the Sea-Laws of tiny Rhodes preserved a modicum of order upon the waters that even Demetrius the City-Smasher could not destroy with his seaborne catapults. So, next year,

1974, enormous political obstacles notwithstanding, the Law of the Sea conference will convene in Venezuela, to consider mankind's future sharing of the riches of the sea. Wars may plunder the land, but the sea remains oblivious to even the worst weapons. While Athens burned under the torch of Xerxes, Thermistocles could take Athenian law and institutions to sea—and even Sparta could not argue against such authority. The glory of Periclean Athens was the result.

Granted, nationalism on land and sea has fostered greed, jealously and war, yet—in all—less blood has been spilled at sea, and certainly not enough to outweigh the enormous advantages of human effort upon the seas.

So the time has come to understand history and the sea in the fullest context, bringing experts and laymen in their several sea-oriented specialties together—as we are today here—and to ask traditional questions anew, as Admiral Hooper will do, and to face new fields and endeavors now emerging as Miss Joye will do.

Furthermore, we have the advantage here of starting in a genuine maritime region—New England and the Maritimes—for a case-study approach and live model for considering the larger issues. The North Atlantic has been and still is *the* key strategic pivot of oceanic affairs of the major powers and many lesser ones. Thus we can understand the region in some detail in the areas of ocean resources, historical developments and continuity, and maritime preservation—the three subjects of our afternoon sessions. And always we must seek to understand and thus *to control* the rivalries of leading competitors upon the sea, today the United States and Soviet Russia—the subject of our morning session tomorrow.

And, lastly, we need to explore the idea of whether our studies should not be put on a more permanent basis—pooled in some organization that encompasses the United States and Canada. The many diverse interests all relating to the sea are exceedingly difficult to bring together in meetings such as this, and by geographical necessity must be regional and small if anything is to be accomplished and the people in attendance able to meet other people. Should not therefore we have a vehicle for sharing our information, of coordinating our several activities (or at least information about them), and of improving communication between ocean historians and specialists? This will be the subject of our wrap-up session and discussion tomorrow afternoon.

And if such high-sounding thoughts and proposals fail to impress in the mental fogs of a Saturday morning, let me say that at the very least that I extend to you a fervent wish that you have a romping good time here which you will remember fondly long after you have all gone your separate ways. And so I, too, welcome you. *(Applause).*

REYNOLDS: I have the pleasure of introducing first of all Vice Admiral Edwin B. Hooper, United States Navy, sort of retired. Admiral Hooper started out in the "Gun Club" which was then the route through the Bureau of Ordnance to a future in battleships; he graduated from the Naval Academy, of course, as most admirals did in the old days, in 1931. He went to Massachusetts Institute of Technology and took a Masters of Science in electrical engineering in 1940. Probably most of us naval history buffs and professionals will be interested to know that he was on the battleship *Washington* which he helped outfit and served in the Guadalcanal campaign. The battleship *Washington* had something to do with turning the tide, November 1942, in those crucial days. He went on in Ordnance and I guess must have seen the handwriting on the wall after the war: he got out of battleships into anti-aircraft and eventually on into nuclear power and nuclear energy and pioneered in some of the early work in tactical nuclear weapons in the late 40's and since. He has served quite a bit in Washington in research and development in these fields as he has progressed on up the line. He also has had long and distinguished service in amphibious warfare and logistical operations throughout the 1960s. Probably the highlight of his career—if I may say so—would be his capacity as Commander Service Force, U. S. Pacific fleet which led to extensive operations in the recent war, from which emerged a book which he has published called *Mobility, Support, and Endurance*, a history of the early American Naval logistics in the Vietnam War. We have a copy on the back desk here. I commend you, sir; it's the kind of thing that official naval officers should write more of, and I hope you will set a precedent for more retired naval officers. It's a shame that naval officers are not encouraged to write more outside of the Naval Institute until they retire, but that stems from the late 40's also when things were written that shouldn't have been perhaps. And so Admiral Hooper is now Director of Naval History and Curator of the Navy Department. I think the fourth in the long line of distinguished retired admirals in that capacity. He is going to speak to us on the relevance of the North Atlantic Strategic Pivot, past and present. I give you Admiral Hooper. *(Applause)*

HOOPER: Thank you, Clark. I was sorry that I was not able to be at the first of these meetings: somehow I got the notice rather late and was already committed. The deputy at that time came here, but I was extremely well impressed with the great good humor of the session at that time, and this I think highlights one of the great benefits of an occasion such as this. I know I greatly prize the opportunity to see people that I haven't seen for some time, get acquainted with individuals in the field, which I might not see were it not for such occasions. Last May when Clark Reynolds invited me to attend this seminar, he asked me to be one of two introductory speakers addressing the general theme of the North Atlantic Strategic Pivot. He suggested that I discuss history in the Navy's program. He then expressed hope that I would include some of my own observations about the North Atlantic, past and future. Later Clark kindly told me I could really do anything I liked. And it seems to me that Professor Reynolds has done a pretty good job of taking care of at least some of the early, more distant past, if that's the way one's looking at it.

North Atlantic—History as Prologue

Vice Admiral Edwin B. Hooper, USN (Retired)

I

Taking full advantage of the latitude permitted, I have decided to express some overall views related to the seminar theme—views as seen by a somewhat ancient naval mariner, one who has been involved in research and development related to the sea and who now bears the title of Director of Naval History.

The presentations over the two-day period cover a wide spectrum. The value of these presentations and the accompanying discussions will be enhanced by the extent to which we can relate them to the unifying subject of the seminar. I hope my talk will be of some help in this regard.

Although sorely tempted, I shall refrain from talking about the Naval Historical Center, the Naval History Division, our resources, and our programs. I will, of course, be happy to answer any questions on these matters at any time during my stay here in Orono.

II

With regard to the overall theme, I doubt if you could find any serious and objective student who would deny that the North Atlantic has, from early times and through World War II, been pivotal in the history of Europe and of North America. Together with its extensions into the North Sea, the Arctic Ocean, the Baltic, the Mediterranean, the Caribbean, and the South Atlantic, this strategic ocean and man's use of it have had profound effects on the rest of the world as well.

History, other than that narrowly focused on events within the land masses, reveals why this has been so. Basic causes stemmed from climatological effects; from ocean-borne transportation of people, of essential raw materials, and of goods; from harvesting the resources of the sea; and from the projection of military power across the sea. The lessons of history through World War II are clear on these matters.

Unfortunately we begin to get into difficulty when we examine the period since World War II. As I see it, this more recent period has not as yet been adequately covered by historical works, at least not insofar as maritime related events are concerned.

Immediately after the war, United States sea power was supreme and, for a time, unchallenged. A steady decline of the American merchant marine set in, but, allied with other NATO powers, our naval supremacy continued. As this nation and the rest of the Free World reaped the benefits of this sea power, the ability to control the seas, and thus freedom to use the seas, was taken for granted.

As time went on, the growth of the Soviet underseas force and, more recently, its surface fleet has increasingly developed threats to our control and use of the strategic North Atlantic and other oceans. The balance of sea power has been changing.

Today there are many who question the relevant importance of sea power. To a large extent, they base their reservations on the advance of technology, particularly the development of nuclear weapons and advancing capabilities of aircraft. These reservations are deepened, at times, by wishful thinking as to the intentions of potential enemies.

As we attempt to approach the future with wisdom, linear extrapolation of the lessons of history is not enough—for this is a changing world. Through an understanding of history up into the recent era and of the advance of technology, we must try to discern the changes that have been taking place in the recent era, the trends established, the seeds already planted which will sprout in the future, and the implications.

But at the same time, we must also recognize that there are limits to the changes which will take place. Far too often, in the days since 1945, our response to changes affecting military power has been unstable. At times we have become so enamored with the more glamorous changes that we have neglected some of the basic considerations which influence national and coalition power. If we are to respond more wisely, we must, while recognizing change, also recognize that some fundamental factors are enduring. Some of the historical principles of the past will still apply to the future.

III

Let us now touch briefly on some of the more obvious factors that are unchanging and then on some of those that are changing.

Some of the unchanging factors and their consequences are dictated by the laws of physics. History will, for example, continue to be influenced by the heat capacity of the North Atlantic and the flow of its Gulf Stream. As long as the latter—propelled by thermal effects and coriolis forces—persists and the earth's axis of spin does not change, Europe will continue to have the climate necessary for it to be

such an important center of civilization and power. I do not think we need worry about a major climate change in the near future, although there has been some speculation as to more remote possibilities.

Among other physical properties of basic importance are the density of water and its fluid properties. This density is such that sea water will support about sixty-four pounds per cubic foot. Variations in density from one location to another exist, but only in small percentages. Density and the flotation it provides couple nicely with fluid properties suitable for propulsion with relatively small drag at reasonable speeds.

The end result is that displacement vessels, the ships that float on or in the sea, have, from early times, provided by far the most efficient means of movement of most cargoes. As for transportation across the seas, the vast bulk of the tonnages can only be delivered by this means. It is inconceivable to me that this fact will ever change.

A group such as this does not have to be reminded of the key and indispensable role of oceanic transport on the North Atlantic in the history of Europe and America, of the influence of sea power upon such transport and thus upon history, or of how the fate of Western nations in the two world wars hinged on the security of lanes across the ocean.

History does show us that a change has been taking place over the past three centuries. The change in peace and in war has been continually one of increased demands on oceanic transport for the material, food and goods upon which the welfare and the survival of the nations of Western Europe, in particular, depend. And with increasing populations and expanding requirements for food, raw materials, and the products of industry from abroad, tonnages are today increasing at an accelerated rate. Not long ago I was amazed to see statistics which indicated ocean-borne tonnages of dry cargo had increased almost four-fold between 1950 and 1970. When petroleum was included, the total was five times what it had been at the start of the twenty-year period. And, of course, by far the greatest volume of traffic in the world is that in the North Atlantic and its extensions.

Vast improvements have been made in aircraft. Their utilization for delivering high value and urgent cargoes has expanded. This is true as well for the transportation of individuals and small groups, but not for large military combat deployments complete with weapons and equipment.

Our Vietnam experiences give some indication of where we stand today. From 1965 to 1970 all of the bulk fuel to support Southeast

Asian operations, over 99 percent of the ammunition, and over 95 percent of the tonnage of other cargoes went by sea. And this was despite the fact that military urgency often overrode consideration of economy in deciding to ship by air.

Some predict that aircraft will develop to the point that 10 percent of the tonnage of military cargoes will go by air. If so, this is still a small percentage. I, for one, do not believe that air shipments will ever approach that figure. I doubt the percentages of commercial air cargoes will ever get as high as our recent military experience. Aside from the overall practicability, considerations of economy, the high fuel consumption of aircraft, and the growing energy crisis with regard to fossil fuels will tend to restrain massive use of the air mode of transportation.

Thus, as it has in the past, the strategic importance of the North Atlantic will continue to stem, in large measure, from the high degree of dependence on oceanic transport. Protection of the sea lanes and denial of their use to enemies in time of war are still crucial factors in the strategic equation.

IV

Another potential source of conflict in the North Atlantic is competition for the use of the resources of the sea.

Fish have always been one of the most important means of sustaining human life. Competition for the exploitation of the concentration of fish off Newfoundland played important roles in the history of the colonial era. The Grand Banks are a scene of major activity in modern times. As long as populations grow the demands for fish will increase, and as a result, fishing in the North Atlantic must be a key factor in considerations of ocean strategy in the future. The growing demand for sea food has already led to extensions of territorial sea claims over the fishing resources of the sea.

The well-known American-British-Canadian dispute over American inshore fishing rights off Canada, extending over more than a century prior to its settlement in 1912, illustrates the potential significance of this matter. A notable example of what can happen has been the recent so-called "cod war" off Iceland. The conflict seemed on the verge of growing into a limited maritime war earlier this year which, by accident or not, intensified at the time of the Nixon-Pompidou meeting in Reykjavik. Some observers noted also that the incidents peaked at the time of a Soviet naval exercise extending into

the Greenland-Iceland-Faroes gaps. According to the papers more than 400 surface ships and 175 submarines were involved in these exercises.

Other uses of the sea and the sea bed are growing in importance. Offshore extraction of petroleum is increasing by leaps and bounds. Many other resources of the ocean and its bottoms lie in wait for exploitation. Herein lie incentives for further competition, and possibly future conflicts. It would be dangerous automatically to assume they all will be resolved by international accords.

V

Meanwhile, technological advances have diversified the strategic roles of the ocean. These have permitted naval utilization of yet another of the physical properties of the sea, its rapid attenuation of light and other electro-magnetic radiations.

Taking advantage of the relative opaqueness of sea water, a new dimension in naval warfare was added by combining internal combustion engines with electrical generator-motors for the propulsion of submarines. U-boat actions against shipping in World War I and those with vastly improved capabilities in World War II came within a few weeks of strangling Britain. This lesson was not lost on the Soviet Union, which proceeded to develop the largest submarine force in history.

A new era commenced in 1954 with the launching of the world's first true submersible, the nuclear-powered USS *Nautilus*. The USSR lagged in developing a similar capability but has since gained a sizable nuclear submarine force to provide a truly formidable challenge to control and use of the seas.

And then, with the first launch of Polaris from a submerged submarine in 1960, deterrence of nuclear war soon became a high priority mission of the U.S. Navy. A glance at the globe, spun to encompass the so-called land hemisphere, will show its center to be on the eastern fringe of the North Atlantic. clearly this ocean is pivotal insofar as the strategy of nuclear deterrence or nuclear war is concerned.

With the advent of the atomic bomb and changes in the world balance of power, there were thoughtful people who predicted nuclear weapons would supplant the need for most conventional forces, and even questioned the continuing requirement for a major navy. We have since learned that nuclear capabilities have not prevented limited wars. Despite this lesson, there are many who seem to assume

that the only kind of war in the NATO area will be a nuclear one, over in a matter of hours or days. Perhaps this will be so, but will it necessarily be the case if the immediate consequences have thresholds below that of national survival? We should not automatically assume a limited war at sea will never occur.

VI

I have but given brief mention of some of the historical factors and areas of change which will in part determine the course of future history insofar as the North Atlantic and the destiny of North Atlantic nations are concerned.

The insights of history carried into the recent past are needed as a basis for sound decision as to actions to take in the future in regard to this ocean and other maritime areas. Within the U.S. Naval History Division we have the capabilities and capacity to compile but a small fraction of the histories that are needed. The main product must come from the civilian scholarly community. Our Division does have rich source materials related to maritime history. We welcome their use by serious researchers.

The need for perceptive historical works is great, particularly for maritime-related events in the twentieth century. Hopefully the historical community will respond to the challenge. *(Applause)*

REYNOLDS: Thank you, Admiral Hooper. It just, I think, proves again and again that even the old traditional historians and those who study traditional history really have quite a bit to contribute in asking the old questions anew, because they never really get old. However, we are entering upon a new era; it might be a new oceanic age, combined with space perhaps. Who's to say? I think one might argue through that, generationally speaking, it's a fairly new generation that is addressing itself from the ground up to these new problems. It happens to be my generation and the generation of our next speaker, Judy Joye, who came to us by a circuitous route. We had intended to get someone from the Establishment, Robert Abel, but he had a conflict at more or less the last minute and immediately recommended Miss Joye with high recommendations, and she was very gracious to come on short notice, for which we are most privileged. But more than that—I now know—we have in this individual, a unique combination of interests, professional abilities and talents, preparation for which she achieved none in college, which I think is indicative also of

the newness of many oceanographic and oceanic subjects. She took her B.A. from Brooklyn College in Business Administration, which I think she is using to good advantage; there's money in the ocean, in more ways than one. But she apparently never tires of telling people, and I think it's a darn good sea story, she got on to the whole field at a cocktail party, back in the 1950's. By the way, I also think that's indicative of New York City; if you don't find out that way you might not find out at all, because it is not as maritime as Professor Albion remembers it, over a hundred years ago; it's become quite another jungle. But she happily got the word at a cocktail party and from there has branched out into oceanography, skin diving, underwater research in the use of drugs at sea. She has gotten into the law of the sea, which is a very special interest of hers; she edits her own newsletter called the Oceanographic News Service; and what else? She does things under water with fish and I think she is also . . . *(Laughter)* oh, I didn't mean that!

Well, I was about to say the next thing which she does is also very expensive. I hope that none of you are chaffing under our $15.00 registration fee, because she gives me a copy of the program, a very pretty multi-colored program, which she ran in oceanography in 1969, at the Overseas Press Club. And, let's see, the registration fee—I don't know if any of us will ever attend one of these—was $395.00. *(Laughter)* And her newsletter—I asked her just before we started, wouldn't this be nice for each of us to subscribe to. But she is definitely going after big business; I don't think any of us, including the University of Maine at Orono Library, could lay out $600.00 a year for this news service. So she isn't playing with peanuts, thank goodness, and I hope she doesn't think our operation isn't too low-keyed for her. I think we might even expand her market more than she realizes, after she leaves us. But she also has had contact with the U.S. Navy. In 1962, she was the first woman certified by the U.S. Navy in buoyant submarine escape, at the great submarine tower in New London, and I'm sure she has come into contact with Naval personnel and State Department personnel and others of varying talents in her law of the sea activities.

And finally, I can't resist, after having invited her—you know, American capitalism is a great thing; you're deluged on T.V. and news magazines and such things with ads which everybody ignores, even the recent studies show children watching "Sesame Street"—they really don't listen to those ads. But only when you run into contact with a bona fide advertised person, speaking for one of

the finest Scotches, Dewars, here: our speaker, as last month's Dewars Scotch girl, I guess we'd call her, and then I realized we had a bona fide celebrity with us. *(Laughter)* But I was most impressed that she asked me immediately on the phone. "Well, which magazine did you see it in?" And as the straight-laced college professor, I replied that I saw it in the *Saturday Review* and *New York Times Sunday Magazine*, and she said, "Good, because all her friends at the United Nations saw it in *Playboy*. *(Laughter)* She said that this had been her lifelong ambition to be in *Playboy*. *(Laughter)* But she got in the wrong part of the magazine. But without further ado, I *(Laughter)* hope she can recoup what's left. Well, it's so rare that up in Orono, Maine we get a bona fide celebrity from Fun City. But seriously, it's with great pleasure that I give you Judy Joye; the title of her talk is aptly named, "Flotsam and Jetsam of the Ocean History." *(Applause)*

Flotsam and Jetsam of Ocean History

Judith Joye

Thank you. After that introduction I don't know if I can keep up the pace.

Before beginning, I should briefly explain the type of work I do. I currently operate two companies. One is a consulting service working in a variety of areas including marine pharmacology, shark repellents, electronics and other oceanographic areas. A spin-off of this consulting service is the Oceanographic News Service. In 1967, when the United Nations began its discussion of law of the sea issues, I realized how important this subject was going to be. I secured accreditation to the United Nations as a journalist and began reporting in those early seabed debates.

In March of 1968, when the first seabed meetings were held, I couldn't give these reports away. No one was interested. I continued my coverage, and gradually, as the importance of this subject was recognized, a market developed and the news service was formed.

When I was asked to give this paper—I'm not a historian, although I have a great fondness for antiquities and history—I decided that I would base my paper on some obscure historical facts—facts that perhaps you as historians had not been exposed to before. This is how we came up with the title "Flotsam and Jetsam of Ocean History", which was Professor Reynolds' contribution. But after speaking to a number of people at the reception last night, I realized that there is a sincere interest in the law of the sea question. I feel that there are many serious complications developing in this area and believe it is important for you, as ocean oriented people, to get out of your ivory towers and start functioning as lobbyists to make your needs, wants and desires known to these lawmaking people. If not, your specialized interests may be eliminated or eroded in future treaties.

But before I get into this law of the sea question, I would like to discuss one historical aspect which I have been accumulating data on for quite a few years. Although I decided at last night's reception not to give the history paper today, I would like to include one short sequence.

I don't know if you are aware of how and when the first divers were used in military warfare. It's an interesting story beginning with

Aristotle, who was the first person to ponder the diving bell and describe it in literature. It is believed that Aristotle had seen Greek sponge divers going underwater with wooden buckets or kettles over their heads which provided the swimmer with one or two extra breaths of air while underwater. Based upon this observation Aristotle developed the diving bell theory, describing the device with the Greek word "lebeti" meaning kettle or cauldron.

Alexander the Great was Aristotle's pupil, and through Aristotle's teachings Alexander was exposed to the concept of a diving bell. According to data I've accumulated, Alexander the Great was one of the first individuals to use underwater warriors, which occurred during the siege of Tyre in 333 B.C. Some museums have paintings depicting Alexander going underwater in this sort of plexi-glass barrel (I don't know how they developed plexi-glass in that early era) and observing the marine life as it swam past.

But I'm going to leave the balance of this history paper as a teaser for some future presentation and turn to the law of the sea question. I would like to suggest that we eliminate a formal question and answer period, and instead I would like to encourage you to ask any questions that come to mind during the course of my presentation. I think that a legal discussion lends itself well to a dialogue, and if I discuss some fact that may not be understood, please feel free to raise your hand and interrupt at any point. We may wander off the planned path of discussion, but I find a free flowing discussion of this type is always more interesting.

In my encouraging you to ask questions, I recall a comment made by the famed psychiatrist A. A. Brill. Dr. Brill was Freud's translator and disciple in the early 1900s, and in this particular instance he was lecturing to a group of medical students. He encouraged them to ask questions and said, "Even if you think your question is stupid, I still want you to ask it, because although your question may be a stupid one, my answer will make it intelligent." *(Laughter)* I don't know whether I can be as proficient as Dr. Brill, but I feel certain I can guarantee no stupid questions.

I would like to begin by explaining the concept of "the common heritage of mankind" from a historian's point of view. Although I never interrupted U.N. debates with a 'point of order' at the time delegates were debating the common heritage of mankind, I always felt this principle should be called "the common heritage of humanity" because the word "mankind" automatically eliminates me from participating in my share of this common heritage. *(Laughter)*

When this concept was first discussed, it was opposed by a number of delegations. We in the United States are a capitalistic society. We support free enterprise, and of course "the common heritage of mankind" is a socialist principle. Although the common heritage concept was not well received, I personally believe this is the only way that the seabeds and their resources can be profitably managed. The days of colonialism have ended, and today's world could not endure a colonial race for seabed resources. If we allocated the responsibility of managing seabed resources to individual countries rather than to an international regime, we could not avoid a government's profit and self-serving motivations which would not guarantee an equitable sharing of unclaimed seabed areas which currently belong to no flag or country.

So if you agree that there has to be some form of organized control and management of this unclaimed area, then that control implies the creation of a regime to manage seabed areas beyond the limits of national jurisdiction. If you imply the creation of a regime, then you also imply a sharing of the cost of operating this regime. And if you imply a sharing of the cost, then you also imply a sharing of the profits derived from the regime. You imply a licensing system—and I should point out that the United States has received well over a billion dollars in royalties from the offshore Louisiana area alone. I should also point out that there are similar large deposits of oil on the deep ocean floor. Oceanographers have found evidence of oil deposits at 12,000 feet, and they have found geological evidence that these deep sea deposits exist in many ocean areas. So we are not only discussing the billions of dollars that manganese nodules will provide; we're talking about the billions of dollars that deep ocean oil will provide as well.

Now I would like to revert to historical facts which may explain why "the common heritage of mankind" was eventually accepted by all nations participating in seabed discussions.

Across the ages we have always adopted a natural pattern in settling the earth. The Vikings, who lived in a land where farming was difficult, were the first people who turned to the sea for their living. They were fearless wanderers who by the eleventh century had established small settlements in Iceland and Greenland. But these small colonies were never developed because in those early days mankind, or humanity as I prefer to call it, had no need for new land.

During the twelfth and thirteenth centuries, Marco Polo's tales of Eastern riches were enhanced by returning Crusaders who created a

desire among Europeans for the silks and spices that trade with the East could provide. As trade routes developed, competition among nations increased until a need for new and better trade routes to the East founded a new phase of history, the Age of Exploration.

During the Renaissance in the fourteenth to sixteenth centuries, explorers from Europe sailed the world's oceans seeking new routes to the East, and instead, they discovered new lands which were claimed for the countries under whose flag they sailed. Columbus, thinking he had found a new trade route to India, had actually discovered the Caribbean West Indies, which resulted in the opening of North and south America to Spanish exploration. By the time the Middle Ages had drawn to a close, explorers representing Spain, Portugal, England and other European countries had claimed vast sections of North America, South America, Canada, Asia and Africa for the countries they represented. At this mid-point in modern history most of the world's continents and islands had been discovered and claimed for the major countries of Europe. With no place new to go, the Age of Exploration temporarily ended.

The nineteenth century witnessed a short lived phenomenon in which newly claimed territories were sold to interested buyers—an astounding phenomenon when related to this current day and age. In 1803, the United States bought the Louisiana territory from France for 15 million dollars. In 1867 she bought Alaska from Russia for 7 million dollars, and in 1898, as a result of the Spanish-American War, she bought the Philippine Islands from Spain for 20 million dollars.

With the arrival of the twentieth century, the Age of Exploration was again revived as modern technology provided the tools with which man could explore *hostile* environments—the only territory that was left to conquer. In 1909, Robert Peary became the first man to reach and explore the North Pole. Continuing a long-established tradition of earlier explorers, Peary planted an American flag at the North Pole, claiming the polar and adjacent territory for the United States. The White House was horrified when advised of this deed, and the United States promptly refused jurisdiction over this newly-conquered territory.

With this act the world entered a new phase of history in which the mere use or occupation of a land would no longer provide the basis for ownership. Following the tradition of earlier explorers the astronauts placed an American flag on the surface of the moon while at the same time the United States government publically renounced jurisdic-

tional claims over this celestial body. If the Age of Exploration had begun to fade with Peary's conquest of the North Pole, there was little doubt that the world, in entering a new phase of history, was intent upon eliminating the custom of establishing sovereign rights over new lands by means of occupation or the symbolic planting of a flag.

Prior to the United Nations discussion of the seabed and the common heritage concept, which prohibits appropriation of seabed areas, the United States was the first country to recognize the value of claiming jurisdiction over this submerged and unclaimed land. On September 28, 1945, coinciding with the first offshore drilling for oil in the Gulf of Mexico, President Truman issued what is called the "Truman Proclamation", which proclaimed that the natural resources of the sub-soil and seabed of the continental shelves beneath the high seas but contiguous to the coasts of the United States were to be regarded as appertaining to the United States and subject to its jurisdiction and control. This was the first time in history that such vast underwater territory had been claimed, and the Truman Proclamation is called the forerunner of current Latin claims of 200 mile jurisdiction. In substantiating their jurisdictional claims, many Latin countries with a tinge of sarcasm say, "Well . . . we're just following the precedent set by Harry Truman and his proclamation of 1945!"

The Truman Proclamation expressly stated that the character of the high seas of the waters above the continental shelf, including the right to free and unimpeded navigation through these waters, are in no way affected. (I'm going to discuss later on in this presentation that in 1971 I witnessed the diplomatic death of freedom of passage. But first I want to establish a few more relevant events.) On the same day in 1945, by executive order, the natural resources of the continental shelf were placed under the control and jurisdiction of the Secretary of the Interior for administrative purposes pending the enactment of legislation thereto.

On May 22, 1953, Congress enacted the Submerged Lands Act which grants to the states ownership of the lands beneath navigable waters seaward to a line three geographical miles from the coastline of each state. The enactment of the Submerged Lands Act was followed in August of 1953 by the passage of the Outer Continental Shelf Lands Act. By that Act Congress declared that the United States owns all submerged land in the continental shelf seaward of the lands granted to the states, but Congress made this declaration without defining the seaward limit of the United States' outer continental shelf. This Act

extends the Constitution, laws, and civil and political jurisdiction of the United States to the seabed of the outer continental shelf, but does not state exactly where this jurisdiction ends. That's an interesting point—that we have no distinct outer boundary or delimitation.

In February of 1958, the United Nations convened the first Law of the Sea Conference. (The meeting scheduled for June 1974 will be the Third Law of the Sea Conference.) When that conference concluded in April of that year, the delegates had drafted four treaties. These four treaties are current existing law and are the only rules and regulations that currently control activities relating to the high seas and other ocean areas.

The Convention on the High Seas defined freedom of the high seas and set regulations concerning fishing, including fishing by means of equipment embedded in the floor of the high seas; pollution; navigation; laying submarine cables and pipelines; tunneling; and freedom to fly over the high seas.

The Convention on the Territorial Sea and Contiguous Zone defined the territorial sea, which includes the air space, the seabed and the subsoil thereof, and the sovereign rights that a country may exercise over this area. But this convention failed to determine the breadth of the territorial sea—delegates could not agree on what this distance should be—which explains why this distance varies from country to country. Rather than leave the '58 conference without a treaty, delegates decided that they would let the delimitation of the territorial sea remain as an open question.

The Convention on the Continental Shelf defined the continental shelf and the restrictions and rights that a country may exercise over this area.

At the same conference delegates also negotiated a treaty on fishing and conservation.

These are the four treaties that were drafted at the 1958 conference. One of the problems that resulted from that conference is that national laws regarding the breadth of a country's territorial sea are not uniform and include a wide variety of claims. Now the statistics I am about to quote were gathered in 1969 or 1970, and there have been some revisions since that date, so my figures are not accurate but they are reasonably close.

Among 69 countries polled, 7 countries at that time claimed a 200 mile limit; 23 claimed a 12 mile limit; 22 claimed a 3 mile limit; 10 claimed a 6 mile limit; and 7 claimed a variety of limits ranging from 4

to 18 miles. As an added complication, the limits for customs, security, criminal investigation, fishing, and neutrality varied from country to country, so if you are going to keep up to date with these various limits, you have to carry a filing cabinet in your back pocket as you sail from area to area.

As another complication, a country's rights to the continental shelf, including the seabed, ocean floor and sub-soil thereof as guaranteed by the 1958 Convention on the Continental Shelf extend beyond a country's territorial sea, and portions of this shelf actually lie under what is defined as the high seas. And as a most serious complication, the Convention on the Continental Shelf loosely defines the continental shelf as being the seabed and sub-soil of submarine areas adjacent to the coast to a depth of 200 meters, which is 656 feet, *or beyond that depth to where exploitation of natural resources is feasible.*

With advancing technology this 200 meter limit has already been abolished, and some experts now say that scientifically-oriented countries can extend their continental shelves to whatever depth they are capable of working. And as you know, the United States operates the *Glomar Challenger*—which is a ship that is capable of drilling into the deep sea floor through a water column of 20,000 feet. So from a technological point of view, the United States could legally claim our half of the Atlantic and Pacific Oceans.

The loose language of this treaty infers that as technological capability develops, a coastal country may extend its jurisdiction across the deep sea floor until it encounters the similarily extended jurisdiction of the coastal country opposite.

Opponents of this interpretation argue that the exact language of Article 2 of the Convention states, and I quote, "The commission has not made specific mention of the freedom to explore or exploit the sub-soil of the high seas. It considers that apart from the case of exploitation or exploration of a continental shelf, exploitation of the high seas (beyond a depth of 200 meters) has not yet assumed sufficient potential importance to justify a special regulation." Thus it is argued that the commission did not consider that the question of the regime of the sub-soil of the high seas would be automatically settled by the gradual extension of the continental shelf as a result of developing technology. If the commission had such a radical extension of national jurisdiction in mind, it is argued that the commission undoubtedly would have made this point clear.

There are a number of other unanswered questions that exist in current law—and I have to say that we have a legal vacuum when it comes to jurisdiction over many ocean areas—such as the question of the meaning of exploitability. If one country, without motive of profit, conducted scientific activities involving, let us say, drilling in an area of the seabed more than 200 meters deep, does that country automatically extend its rights on the continental shelf? If a country's activity consists merely of picking up from the seabed some easily available natural resource such as manganese nodules, does that activity give this country rights over the resources of the sub-soil which may not be exploitable by present technology? Or to state the problem in concise language, does simple exploration constitute exploitation?

So you can see the complex questions that have been raised in current seabed negotiations. In 1958, delegates felt that exploitation of ocean resources was so far away—and they forecast this wrongly—that even though the Conference could not agree on the exact delimitation of boundaries, delegates felt that this delimitation was unimportant. They reasoned that in their lifetimes they would not have to worry about seabed mining and stated that some future generation could redraft this treaty when deep mining technology becomes available.

Well, technology moved faster than delegates expected, and with the beginning of subsurface completions in oil drilling, with manganese nodule mining technology becoming operational in two to three years time, we now know that the 1958 treaties are outdated. Unless these treaties are quickly revised, we may find countries appropriating or declaring sovereign rights over mineral-rich areas of the deep sea floor.

For example, Deepsea Ventures, which is a subsidiary of Tenneco, Inc., and the Hughes Tool Company have the technology to begin mining the deep sea floor for manganese nodules within a short period of time. These companies have spent a hundred million dollars combined to develop this technology. Now what security of tenure are these ventures offered? If these companies were to begin mining nodules—and let us say a coastal country extends its limits of national jurisdiction to a thousand miles, which is not impossible because under present law a sovereign country can legally extend its limits to any distance it wants to—is the United States going to risk beginning a war by defending this hundred million dollar operation which now falls within the territorial waters of another country? We all know that the United States will not.

So it became evident in the late 1960's that marine technology was advancing at a rapid pace and that the 1958 treaties were outdated and did not cover current capabilities. In 1967 the United Nations General Assembly considered holding another seabed conference and formed an *Ad Hoc* Committee to study the question. This committee held its first meeting in March of 1968, and it was quite obvious that most delegates did not want to attend that session. Many felt it was an unimportant committee and a delegate with the rank of ambassador would have preferred spending his time debating what he considered to be more important issues. There were 35 countries on the *Ad Hoc* Committee, and you could see them entering the room kicking imaginary tin cans protesting the unimportant assignment they had received.

It took the delegates a year (the *Ad Hoc* Committee met for one year during 1968), and at the end of that year the delegates realized the significance of the question they were handling. At this point in time the seabed question became a top priority item, and delegations were quite anxious to get assigned to the permanent committee which was formed in 1969.

The Seabed Committee now consists of 91 nations, which as a large committee is a cumbersome body that tends to waste a tremendous amount of time. For example, if the committee discusses freedom of passage among 35 members, it could accommodate 35 speakers in about one week's time. But if it has to accommodate 91 nations all discussing this one question, it must schedule about three to four weeks to discuss this one item. There are easily a hundred different items on the Seabed Committee's agenda, so the expansion of the committee from 35 to 91 nations is one reason why the conference is so far behind schedule.

When delegates began discussing the seabed question in 1968, they originally were to revise only one treaty, the 1958 Convention on the Continental Shelf, for the sole purpose of setting new and uniform boundaries. The group of developing countries, which by 1968 had increased in number and secured a voting majority—we called it a paper majority—argued that many developing countries were still colonialized in 1958, and many countries which are now members of the United Nations did not exist in 1958. As they did not participate in the development of law of the sea, and as law of the sea was written by the colonial masters who did not have their interests at heart, the developing countries argued that all existing law of the sea should be discarded and the world should begin over again from scratch.

There followed a long and tedious battle which the group of developing countries won. As a result, for the first time in the history of humanity an entire concept of law is being discarded and will be rewritten as a concise, coordinated whole. For the first time in history we are not establishing law through custom or use but hopefully through well-planned logic and compromise.

After this long journey through law of the sea history, I would like to return to my opening comments about the common heritage of mankind and explain why this principle of non-ownership of seabed resources was the only option open to seabed delegates.

I think we agree, both by historical evaluation and simple logic, that the world could not tolerate another era of colonialism and appropriation, in this case, of the deep sea floor. If we agree upon this premise, then we must agree upon the advisability of establishing a body or regime to manage this area on behalf of the world community, on behalf of their common heritage. Although delegates agreed upon this concept, they could not agree upon the words used to express it. Many delegates argued that there was no legal precedent for the common heritage. If we cannot define this terminology by existing legal definition, then we do not know what we are agreeing to, they said. Other delegates argued that no terminology has legal substance until after it is made into law and that we will define this to be whatever we want it to be. Other delegates argued that you cannot translate "common heritage" into all languages. In Spanish, they said, "heritage" is translated as "patrimony", which certainly is not the definition that the delegates had in mind.

The Seabed Committee spent several years trying to find the correct group of words to express the legal status of the deep sea floor—the area lying beyond the limits of national jurisdiction—and finally agreed that they could not agree, that they could find no better wording than "the common heritage of mankind." In that sense they reached a true compromise, because as no one in the United Nations is satisfied with the words "common heritage", a compromise in the truest sense of the word was reached. And that is the story of how the common heritage concept evolved and was finally accepted.

Now we are confronted with an unusual situation. The United States, realizing the need for security of tenure for mining operations and the need to protect freedom of passage, strongly supports the common heritage concept and the international regime which will manage this area—which is a socialistic principle involving the shar-

ing of profits. The Soviet Union, which is a newly emerged sea power—I like to say, the bear has learned to swim—is a strong supporter of free passage, but has not enthusiastically supported the common heritage or the international regime. They would prefer a "token" regime with a minimum of restrictions—which is a capitalistic concept favoring free enterprise.

Now we turn to the many small delegations in the United Nations who have small staffs and who may be unsophisticated when it comes to science and technology issues. If these countries lean to the left, they rely upon the socialist countries to provide the technical advice they need, and if they lean to the right, they seek this advice from the United States or other Western European countries. Now, all of a sudden, they find these two groups reversed.

I was speaking with one delegate from a small African country who said, "Very frankly, we're confused. We have no oceanographic personnel, no oceanographic universities, and we have no oceanographic industry. The United States, a capitalistic country, wants the common heritage of mankind, a socialistic principle. The Soviet Union, a socialist country, wants free enterprise on the deep sea floor, a capitalistic principle, and," he confided, "we don't know who to go to for the advice we need." At which point I coined the phrase, "The seabed makes for strange bedfellows." *(Laughter)*

As soon as the common heritage principle was voted upon and passed, we reached a turning point in the work of the United Nations. This principle implies that some agency or group will manage seabed resources which, by definition, are not owned by anyone but will be equally shared by everyone. In United Nations terminology delegates refer to a "regime" as the body which will manage these resources.

In contrast to the position expressed by the Department of State, U.S. industry and to a certain extent the Soviet Union would like the governing body to be a token regime, just a simple registration body to record exploration and exploitation activities. Other countries want the regime to have full powers. For example, Tanzania introduced a resolution which would give the regime the right to explore and exploit seabed resources, which means the regime would be in competition with the entrepreneurs they license. Under these conditions of competition, could the regime issue licenses on a fair and impartial basis?

The regime will probably enforce pollution restrictions, and industry is quite unhappy about this because the regime will probably develop strict pollution provisions. Mining industries would prefer to

see a weak regime with weak pollution enforcement. This would allow industry to go into a poor, developing country and say, "Why don't you extend your limits to, let's say, 800 miles to eliminate the regime and we will develop your offshore resources? If you don't enforce strict pollution requirements we will be able to recover these resources at a minimum of cost and a greater profit to you. You are a poor country which can afford to sacrifice your beaches for much needed revenue."

The result of this strategy is that although country A's waters may willfully become polluted, country B's waters will become equally as polluted without offering any of the economic benefits received by country A. In addition, country B's fishing industry may be adversely affected. It is complex problems such as these which have caused great controversy over the extent and nature of the regime to be established.

It has been implied that there will be financial contributions made to support this regime, and it has been suggested that these contributions be on a scale equal to contributions made to the United Nations, which means that the United States would pay the largest share of the regime's operating budget. It is also suggested that profits from the regime, which would include license and royalty payments, should be distributed in reverse proportion to U.N. contributions, which means that the United States would receive the least amount of profit. This is one of a number of inequities that will be considered by the U.S. Congress before any treaty drafted by delegates is ratified by the United States.

Before concluding I would like to discuss one event which disturbed me greatly: when I witnessed what I call 'the diplomatic death of freedom of passage', which occurred in Geneva during the August 1972 seabed meetings.

Freedom of passage and freedom of scientific research are closely related principles, and many developing countries have shown great hostility toward these concepts. These countries argue—and I think there is some substance to their argument—that although the likelihood of a full-fledged atomic war is not a realistic possibility, if we developing countries do something that the developed world does not like, you developed countries don't declare war—you simply anchor two or three battleships off our territorial waters where they can be easily seen from land. As the ships converge along our horizon, we see your big stick and we feel the pressure you are applying. Many

developing countries feel that the way to stop this psychological pressure is to extend their territorial waters.

Regarding the freedom of scientific research, many developing countries do not want foreign ships which may be on a legitimate scientific mission, surveying their territorial waters both for military and competitive economic (offshore mining) reasons. There is no ship sailing the seas today—and this includes fishing vessels and even the most innocent of pleasure craft—which can comply with true innocent passage. Almost all ships today use Fathometers or other depth measuring devices which are capable of creating a permanent record of the depth of the waters through which they sail. Also, many passenger, merchant and fishing vessels are "ships of opportunity" which carry an assortment of oceanographic instrumentation supplied by universities.

Many developing countries say, "Even if you are cruising beyond our territorial sea you will know the depth of waters which parallel our territorial sea, and you will know the location of mineral deposits which may be an extension of deposits within our territorial jurisdiction. You will know the extent and location of these deposits before we develop the technology to locate them ourselves.

"Regarding the water's depth, if we have a narrow territorial sea your instruments will find areas off our coastline where you can bottom a submarine which we will not be able to defect. With simple depth measuring equipment, which all ships carry, you can find areas near our coastline where, if the need should develop, you can return to plant submerged mines. Why should we," the developing countries ask, "allow you to freely gather this information?" Developing countries have stated that because of the instrumentation they carry, many ships, including merchant and fishing vessels, no longer constitute true innocent passage. This same argument has been applied to passage through international straits.

I also see a trend developing whereby ships may have to pay a fee for the "right" to pass through international straits. Countries such as Indonesia and the Philippines are quite insistent upon this point, referring to a fee as "income to finance the dredging of channels through our archipelago straits." Considering the bad experience the world has had with "creeping jurisdiction", we can assume that if we agree to finance the cost of dredging via a per ship fee, within a few years time these fees will be increased, until we find these and other

straits, such as the Straits of Gibraltar, charging exorbitant fees for the "right" to pass.

Many developing countries have stated that freedom of passage no longer exists because of the equipment that modern ships carry, and these countries claim they have the right to ask a ship to *prove* its innocence before passage is permitted. They explain, "We're not going to stop your ship if its passage is truly innocent," but I must ask, exactly what is innocent passage? Does a simple Fathometer imply military significance? If a country does not like the 'color of your eyes', can they board your ship at will and ask you to *prove* your innocence; your cargo and shipping schedule could be delayed for five, six or more days. This potential lack of mobility dispensed at the whim of individual countries could cause serious problems for military as well as commercial operations.

If that problem alone is not serious enough, many countries have expressed the desire to control marine pollution, including pollution which emanates from ships traveling the high seas. They say, "If you pollute the high seas, that pollution will eventually enter our coastal areas; therefore, even if you are in a high seas area, you must prove your innocence of pollution-free passage before we allow you to pass near our coastline."

Although this request does have merit when applied by well-intentioned countries, if for political reasons certain countries don't want your ships to continue their journey, they could delay or prohibit your passage by saying, "Your ship does not have this new piece of equipment which we made mandatory as of yesterday because we heard you were coming."

If the right of "freedom of passage" is being eroded by a new treaties currently being drafted, should we believe the promise made by this growing group of countries that they will permit unrestricted traffic providing the passage is "innocent"? History indicates that we should have our doubts, and as years pass we may lose the right to sail ships through many ocean areas, including international straits and portions of the high seas which have traditionally been free.

The reasons that coastal countries could give for denying passage are:

1. a "maintenance" fee must be paid by all ships sailing through international straits or transversing archipelago waters;
2. a ship carrying *any* form of electronic equipment is not truly innocent and is subject to review by the coastal country;

3. a ship that has the "potential" of polluting the high seas off coastal areas can be denied passage by the coastal country.

The United States has fought to preserve freedom of passage, but the U.S. delegation lost a major fight in 1972 when the Sea-Bed Committee was drafting its agenda, which delegates referred to as "The List of Subjects and Issues." This list was intended for use by the Sea-Bed Committee and cannot become the agenda for the Law of the Sea Conference unless so voted by *Conference* delegates.

While debating the contents of this "List of Subjects and Issues", many developing countries and strait countries such as Spain wanted the item relating to passage through straits to read, "innocent passage"—period—and end of item. The United States, supported by a number of European countries, suggested that the straits item read, "innocent passage" followed by an additional agenda item, "Freedom of transit (through international straits)." Although under the developing countries' proposal the United States could still have discussed freedom of passage, delegates often play a game of nerves. When two cars approach each other head-on, which car is going to swerve first? In the case of the freedom of passage question, the country that swerved first was the one that had the weakest negotiating position and the least amount of support from its capitol.

When delegates reached that final showdown between the U.S. draft which included the words "freedom of transit" and the developing countries' draft which omitted these words, the United States informed the delegates that it had to contact Washington for instructions. Although such types of instructions are usually received in 24 hours, it took five days for Washington to determine what the U.S. position should be. Each morning the delegates would meet, the Chairman would ask the United States if it had any comments to make, and the United States delegate would advise the Committee that he was still waiting for instructions to arrive. The meeting would be adjourned, and after a few minutes of formal session we all left for the day.

On the fifth day instructions arrived, and based upon the unusually long delay that this decision required, we must assume there was one wing-ding of a battle going on in Washington between conflicting interests. When these instructions were finally received by the U.S. delegate, it was my impression that this delegate who fought hard for freedom of passage was too embarrassed to take the microphone and advise delegates that the United States had downgraded its position. Instead, France took the microphone on behalf of the United States

and the European powers that had sponsored the U.S. draft and stated that they were prepared to accept the other proposal—which did not contain the item relating to freedom of passage. In other words, France told the Sea-Bed Committee that the United States was not supporting its concept of freedom of passage, and an important battle was lost. The United States—a major sea power—had backed off.

I feel quite strongly that instead of downgrading its position, the United States should have left Geneva without agreeing to a list of subjects and issues. When the delegates returned to New York they could have scheduled an emergency session prior to the General Assembly, at which point there would have been hardcore negotiations on this issue. If this had occurred, I have a feeling that the United States, in displaying a position of strength, could have gotten its way on this point. The U.S. had a valid argument for insisting that freedom of passage be included on the agenda by pointing out that the developing countries should not pre-judge the issue by eliminating freedom of transit from the list of subjects and issues. If the freedom of passage concept does not merit being included in a new treaty, they argued, then after the issue is debated it will be dropped; but, the United States argued, delegates should not pre-judge the question of free passage by denying any delegate the right to discuss it.

The fact that Washington was not willing to fight for the inclusion of this item resulted in what I call the "diplomatic death" of freedom of passage.

While the debate on this agenda item was underway, Canada brought up an interesting point. I should explain that the Canadians are not enthusiastic about freedom of passage because as a pollution-cautious country they are concerned about the possibility of a tanker accident spilling oil in their northern waters. In debating this issue, Canada said that freedom of passage never really existed. It never existed in straits, they said, because a ship cannot stop in a strait, it cannot turn around in a strait, and a submarine must pass through a strait while surfaced. Therefore, they argued, freedom of passage has never really existed! The Canadians said it was always innocent passage or the "rights of transit", which imply certain controls and restrictions.

Surprisingly enough, at this same session in Geneva, the United States accepted the Canadian concept that freedom of passage never really existed because, as the Canadians pointed out, there are im-

plied controls and restrictions which regulates a ship's passage through international straits.

If I were to call this paper a success, I would hope that my comments about the freedom of passage question will encourage you to get out of your ivory towers and into the arena where the laws you will have to live with for many generations to come are currently being written. It may be too late for you to get into the fight because many issues have already been debated and many delegations have already decided upon the positions they will follow, but I do recommend that you contact your legislators and Department of State personnel to encourage the U.S. delegation to defend freedom of passage more competently than it has in past debates. This is especially true of the military attendees at this current meeting (in Maine). I would like to see the quality of the D.O.D. representatives attached to the U.S. delegation up-graded and expanded with some aggressive, competent people replacing the "wall-flowers" who currently comprise the D.O.D. contingent.

This is the last chance you have; the battle is 80% lost, and unless you come out and fight hard for the principle of *true* freedom of passage, this centuries-old principle will become a relic of the past—and you will have no one to blame but yourselves. *(Applause)*

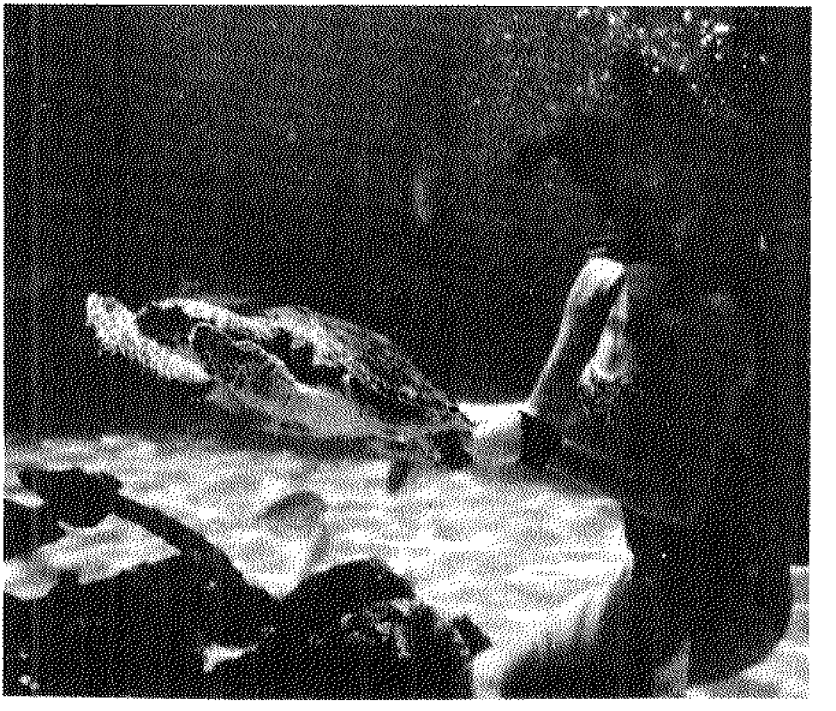
REYNOLDS: I think Miss Joye more than lived up to my introduction, and I learned so much I refuse to be pessimistic, but you frighten me. As you intended to. Logistically, here's what we're doing; we're going to walk across the mall, salute the big brown bear next to the gymnasium as if it were Tecumseh or something and go straight on to Wells Dining Commons—you'll see it—just straight across and have luncheon, then be back here. If you have the old program that was sent out last spring before we even had Miss Joye or anyone else on it, throw it away. Now the afternoon sessions we are not going to run simultaneously but back to back so that we can all participate in as many of them as we like, so that we will come back here. For those who are interested in the movie, be here at 1:00; we will look at it and Miss Joye will explain it and then when it's over, those interested in ocean resources, go down around the hall to the right, and the ocean resource session will go on. And then what we're going to do is a bit unique for the workshop; we will allow people who want to talk and ask questions to stay there as long as they like, simply stay in each room of the workshop, and the next workshop will convene about an hour and fifteen minutes later in the next adjacent room, so that there

will be the one on Naval History. I doubt if there's too much overlap there and vice versa. Then we'll come back here then for the third session on Maritime Preservation. So I think you can get as much or as little as you like of oceanic subjects, and when you are in a thoroughly swimming condition we will adjourn for cocktails; probably you will want to go back to your motel (we'll shuttle people back and forth), but we'll reconvene near the Commons and the Alumni Center at 6:00 for a good old fashioned Navy cocktail party and go right on to lobster or steak dinner after that. And if you're confused just approach Mr. McAndrew or myself and we'll serve you. Thank you.

Film on Undersea Life

Judith Joye

As a final piece of business, I brought a short ten-minute film which has nothing to do with law of the sea, with the United Nations, or with marine history. I make a lot of television appearances, and I'm frequently asked if I have a three-or four-minute background film to illustrate what it is like to dive underwater. In response to those requests I had this film made, and although it says and does nothing of great importance, it gives you an idea of what it is like to dive underwater and socialize with some of the more exotic marine animals.



This film was taken in Miami Seaquarium, but before I show it there is one sequence I would like to explain because the action moves quite quickly. While at the Seaquarium I developed a delightful friendship with the porpoises. They are amazing animals which I call the "German shepards of the sea" because in some instances they

demonstrate a desire to protect you from danger. In one of these sequences I pet a moray eel, which is a dangerous fish. When I work with the moray eels I work above and behind the eel so if it were to attack it would have to get into attack position and I would have a few seconds warning. You will notice that in these sequences there is always a porpoise's head in view, and when the eel turns to observe me, you will see the porpoise swim in and pull my hand away. The porpoises never made an error in judgment. When the eel ignored me the porpoise let me continue petting it. But when the eel started to turn around and look up at me, the porpoise pulled my hand away just about at the same time I was going to take it away myself.

This is the tropical fish tank at Miami Seaquarium. You may notice that I'm wearing canvas gardening gloves. These little tropical fish, such as the French or queen angel fish, have very sharp teeth, and when they take food out of your hand they often scrape some of the skin off your fingers. . .so you're wise to wear some kind of gloves. Inside the plexiglas bucket I'm carrying are small pieces of fish which I will hand-feed to the fish. You can hand-feed fish in open water as well. If you offer food to fish on an open reef, they will come in and take the food right out of your hand.

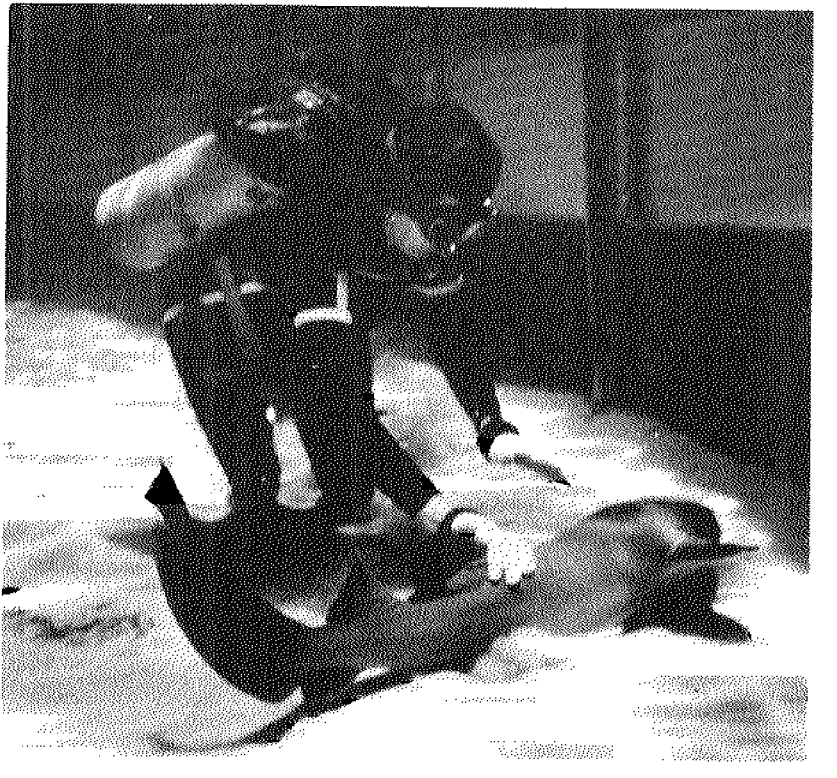
When the word is out that feeding time is here you will see me literally surrounded by fish. That is a French angel. There—the word is out. *(Laughter).* In the lower portion of the film you will see a stingray. This was the most affectionate animal I have ever met. He would swim over and make me stop whatever I am doing to pet him. He would hit me repeatedly on the side of the neck and I would have to pet him for a few minutes, after which he would swim away. This stingray has a venomous barb in its tail. If it were to strike me with this barb, it could send me to the hospital, or if it were a mid-trunk wound it would probably be fatal. But of all the fish I have worked with underwater, this ray is the most affectionate fish I have ever seen. This stingray liked my long hair and it used to swim over my head and let my hair tickle its belly. *(Laughter)* Just a marvelous animal.

Now we have moved over to the main tank in which the Seaquarium keeps its sharks, sawfish and moray eels. The divers are more afraid of the large sea turtles than they are of the sharks. Turtles are pretty dumb. They grow to more than six feet in length, and if one of these big turtles suddenly decides it is hungry and grabs your arm, in one bite they can snap the bone in two. If a diver working in the tank finds he is swimming head on into a shark, he will make the shark get out of his way. But if a turtle approaches, the diver will always drop

down and give the turtle the right of way. Turtles are pretty slow swimmers, but when they decide to move they go quite fast and they provide an exciting ride if you grab their shell and let them tow you around.

These are porpoises, and there is no way you can work in the tank without becoming friendly with them. They automatically understand hand signals, and here, just the simple clapping of your hands and they instinctively come to play. Their skin is soft and smooth, like the rubber skin of a child's latex doll. They love to play games and teach you to play tag and other types of games which you play by their rules. It's frightening, that after a week or so you suddenly realize that all of the games you are playing are games that the porpoises taught you and that you're playing these games by their rules and regulations. *(Laughter)* And every morning they put you through your paces too!

That is a safety diver behind me. You never go into this tank alone because of the sharks and eels.



This is a small shark which was a marvelous animal that loved to be petted. If you want to pet him, you grab him and immediately start rubbing his nose. He would then lie motionless on the sand for as long as you have the patience to rub his nose. But the porpoises get very jealous, and this porpoise chased him all the way across the tank. *(Laughter)* These are sawfish which run up to 13 or 14 feet in length. When you think of a 9 x 12 rug, a fourteen foot fish is pretty big! We did not get film of this, but as they swam past I ocassionally grabbed their dorsal fin, and they take you on a pretty fast ride across the tank.

These are moray eels. They are paranoic by nature, and once they attack they fight to the death. Now watch this eel. The porpoise was right in taking my hand away. This eel was paying too much attention to me, and I should have left him alone. There he goes—and I finally agreed that the porpoise was right in taking my hand away. This is a free-swimming eel. You seldom see these eels swim out of the rock crevices in which they live. The entire roof of the eel's mouth is lined with sharp teeth, and they can be quite dangerous.

When you're working with a moray eel you want to avoid any quick, violent movements. You move very slowly. Even if you think an eel is going to attack, never swim away quickly, but instead float slowly away. Fishermen in Florida fear the moray eel. If they should hook an eel, the eel will climb up the line, down the pole and into the boat, and before you know what has happened, the eel is in possession of the boat and the fisherman is flapping in the water. Florida fishermen who hook an eel have learned to cut their line as quickly as possible, before the eel climbs up the pole and into the boat.

Some people think that I wear a metal lining inside the gloves I use, so I took off my gloves just to let you know that I work with bare hands. When fully grown, these eels will average six or seven feet in length.

There's that shark again, and he does like having his nose rubbed! A shark's skin is like course sandpaper, and before sandpaper was invented, cabinet makers used shark hide, which they called shagreen, to finish wooden furniture.

This eel isn't too friendly and—there he goes. Actually, the moray eel is not green. His skin is a blue color, and he is covered with a bright yellow slime. It is the combination of these two colors which make him appear to be green. If you washed off the slime he would be a fish of a different color.

That's the end of the film. *(Applause)*

Workshop: The Ocean Resource

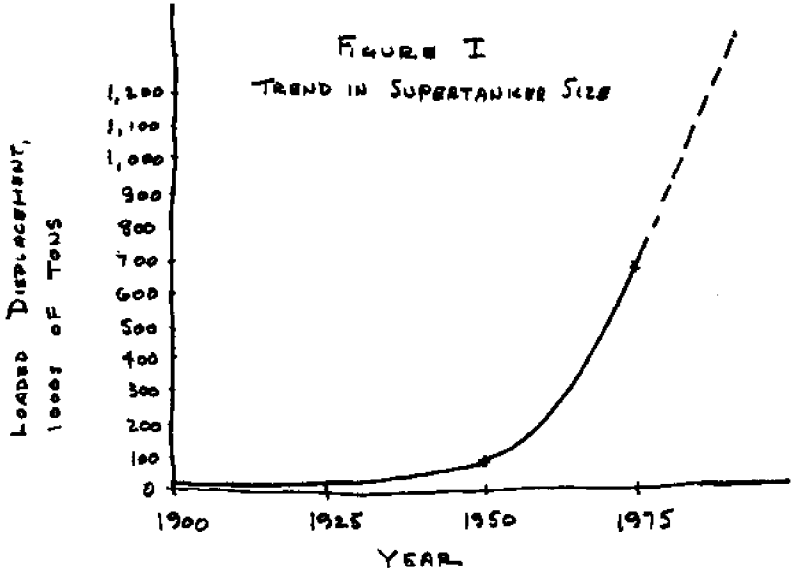
Arthur M. Johnson, Moderator

JOHNSON: This is the first workshop of the afternoon as you know. I'm Arthur Johnson from the University of Maine. The topic that we are going to discuss is "the ocean resource." I had some remarks I was going to make about that, but I thought that Clark and Admiral Hooper covered the subject so well that we're all quite familiar with why the ocean is a resource, and I'd like therefore to get on with presenting our panel who are going to look at it from their respective standpoints. I've asked each of them not to exceed 10 minutes, which I know is difficult, but our basic objective is to get some interaction with you, the audience. So if we can have 10 minutes from each of these gentlemen, then we invite you to make your remarks and suggestions about the ocean as a resource. We'll try to break as close to 2:30 as possible. Those who would like to go on to the next workshop are urged to do so; those who would like to stay and discuss this particular topic further are also welcome to do so. Our first speaker is Cy Hamlin who is probably known to a number of you. He's a naval architect; he is affiliated with ocean systems; he is very familiar to anyone interested in sailing or yachting on the coast of Maine, one of the founding members of the Friendship Sloop Society. Nobody's better qualified than he I think to talk about "transportation systems."

Transportation Systems

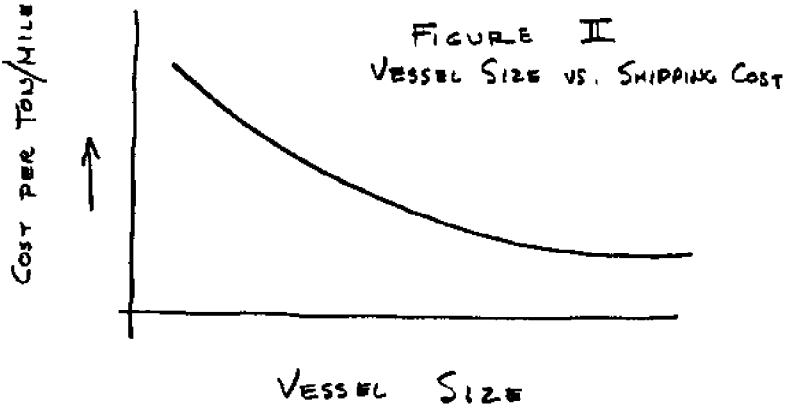
Cyrus Hamlin

Thank you, Arthur. This is going to be fairly brief, because of the 10 minute limitation and because I don't know how long my voice will hold out. But in thinking about this subject of marine transportation, three words seem to typify the state of marine transportation today. One of these words is "change." In the twenty-eight years since World War II, there have been drastic changes in the technology of marine transportation. It's advanced at a tremendous rate, sometimes a frightening rate, and I think this is most dramatically illustrated by the advent of the super tanker. I've got a few graphs



sketched here which will give you some indication of the explosive nature of these changes. This (Figure I) is a graph in which the ordinate scale represents displacement, or weight of the tankers in thousands of tons; that's four hundred thousand, eight hundred thousand and so forth. These are the years. Now historically this is the trend: in 1900, a 10,000 ton tanker would have been called a super

tanker. The curve stays fairly constant. By the end of World War II, the T-2 tanker displaced around 21,000 tons. Since then the curve is going up steeply like this. Last year Shell ordered two 533,000 ton tankers which will displace around 630,000 tons, and there are projections up to 1,000,000 ton tankers which would displace about 1,200,000 tons. You can see how this has just exploded, I think through the efforts of the Greek ship owners and the Japanese ship builders.



The reason for this is quite obvious. If we plot cost per ton mile against size (Figure II), we get a curve something like that. So obviously the bigger the size, the lower the cost of shipping the oil. Table I shows what that means in terms of numbers. The 1948 supertanker was 523 feet overall, it displaced 22,000 tons, and had about 14,000 horsepower. The 1974 super tanker is 1370 feet long, almost three times as long, it displaces 620,000 tons, which is 30 times as large and has 65,000 horsepower. I'll return to this question of exploding numbers a little later on.

TABLE I

	1948 "Supertanker"	**1974 Supertanker**
Length Over All (LOA)	523 ft.	1370 ft.
Beam	68 ft.	230 ft.
Draft	30 ft.	95 ft.

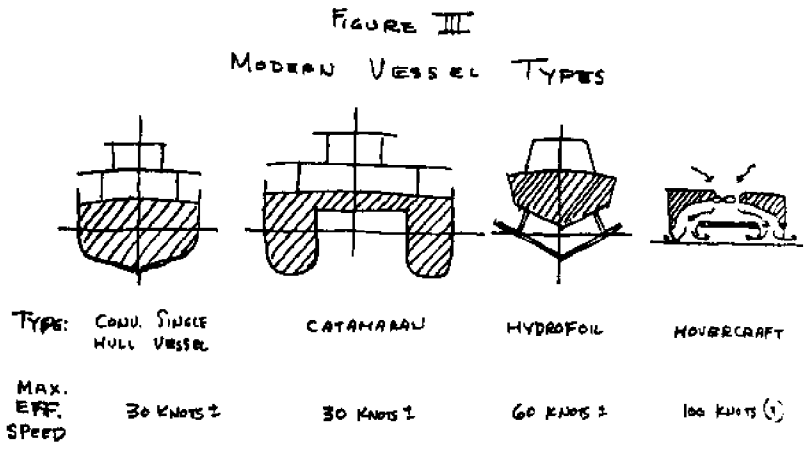
Deadweight Tonnage (DWT)	16,600 Long Tons	530,000 Long Tons
Displacement	22,000 Long Tons	620,000 Long Tons
Horsepower (HP)	14,000	65,000
Tons per HP	1.6	9.5
Cruising Speed	15 Knots	16 Knots
Number of Cargo Tanks	25-30	16-18
Tonnage per Tank	600-700	30,000±

Among the other changes which have come about in the marine transportation industry since World War II are these, not necessarily in the order of their importance. One is the containerization of cargo; that is putting small items of cargo in large boxes which all fit together in the vessels. This category includes roll-on, roll-off vessels onto which trailers are driven like large ferry vessels, and the LASH vessel in which barges are loaded, brought to the stern of the vessel, lifted up onto the vessel, and loaded in the hold; at the port of destination they're unloaded from the mother ship, and towed to the point of onloading.

Speed has also increased considerably. The speed of an average freighter by the end of World War II would have been on the order of 10-15 knots; now some of the container ships are making passages at 30 knots or even better.

Another change which is quite recent is the development of liquified natural gas carriers. This is a highly sophisticated type of vessel in which natural gas, cooled to a liquid at something below minus 255 degrees Farenheit, is carried in large tanks, say from Africa to the East Coast of the United States. As a sidelight on this—this was a technique which was first pioneered in the United States, but I don't think any of these vessels have been built in this country as yet.

Another area of notable change is in power plants. In addition to the conventional steam turbines, and the diesels—diesels, by the way, go up to 40,000 horsepower—two new power sources coming into use since World War II are the nuclear fuel steam turbines which have high horsepower, very high initial cost, but a relatively low fuel cost, and will operate for a long time without refueling; these are used in nuclear submarines. Perhaps the other most notable new power source is the gas turbine, which is a very light weight, medium horsepower, type of power plant, but not too efficient with respect to fuel consumption.



Another area of considerable change since World War II is what I call novel ship types. I've sketched some here (Figure III); this is of course the conventional single hull vessel, with a speed capability up to 30 knots more or less; as they get up above that speed they become pretty uncomfortable. Second is the catamaran, an old type which is being resurrected—made possible largely through the advent of light weight power plants and light weight building materials. This type is also good for up to 25 or 30 knots. The third type is the hydrofoil. In this type the hull is "flown" above the surface of the water on metal wings which are submerged entirely or partially in the water; speeds up to 60 knots are possible with the hydrofoil. One of the most interesting types is the hovercraft, the surface effect ship (SES) or the captured air bubble (CAB); they all operate on the principle of trapping air under the hull in one way or another, thus building up air pressure to lift the hull clear of the water. The shaded portion is the hull itself. There is a fan which sucks air in and blows it out to build up pressure under the hull; some of it escapes out around the bottom of the skirt. These craft are capable of speeds, they say, up to 100 knots. They can also be quite sizable; some are now either built or building which I believe will carry 60 cars and 600 people for cross-channel purposes. I'd like to comment briefly on this question of maximum speed; I personally don't believe that there is much hope of getting above 50 knots in any type of water vehicle which will carry an effective payload.

Another novel ship type is the submarine. Of course we're all familiar with the submarines of history and of World War I and II, but now submarines are moving into the research field very strongly, and we have frequent news stories about such exploits of submarines as finding the atomic bomb off Spain. There's another potential use of the submarine, and that is as tankers. It's estimated that for tonnages above about 200,000 dead weight tons the submarine will be an efficient carrier of fuel oil. It would not only offer increased efficiency but would be able to travel under the polar ice cap.

The second word which is important in our marine thinking is "environment." Of course we're all familiar with oil pollution, and this is I'm sure the main concern. Incidentally, you may be interested to know that in a recent year—I think it was 1970—there were approximately 5,000,000 tons of oil spilled from one source or another into the seas. It's hard to believe, but over a quarter of that, 30%, came from the crankcase drainings from highway vehicles. Tankers contributed most of the rest. Coming back to our tankers, we have the fact that the tankers have increased thirtyfold in size, so that any accident to a tanker could be thirty times as serious as it was twenty-five years ago.

In addition, the number of individual tanks in tankers has decreased. A tanker is divided usually into wing tanks and center tanks by two longitudinal and several transverse bulkheads, each tank being independent of the others. Tankers used to have from 30 to 35 tanks; now super tankers are carrying their cargo in only 12 to 15 tanks. What this means is that each one of those tanks carries 20 or 30,000 tons of oil. These are vessels without double bottoms, so that there is relatively little protection against rupturing the tanks if the vessel grounds. You can see that the amount available for leaking has increased considerably. Few tankers have any real pollution control devices built as yet, although some ideas have been proposed: maybe Bill Haggett wiwl have something to say on that.

Adding to the environmental complications of the large tankers is the fact that the number of tons per horsepower has increased. After World War II one of the T-2 tankers would have about one and a half tons of displacement to each horsepower, but these large tankers have about ten tons of displacement to each horsepower. By contrast, my 28 foot sloop has less than one tenth of a ton per horsepower. You can see that it is this horsepower which maneuvers and stops the vessel: the more tons you have per horsepower the longer it will take

to carry out a maneuver or to stop. This is the source of concern of naval architects over bringing huge tankers into confined waters like Penobscot Bay. One intriguing possibility that has been suggested is that to avoid the pollution problem the petroleum be gassified in the country in which it is found, then frozen, put into liquified petroleum gas tankers and shipped. In the event of a leak, the liquid gas could presumably warm up, turn back into its original gaseus state and dissipate in the atmosphere. It is not clear what the hazards are when the gas and air are in explosive proportions during the dissipation process.

The third word of importance in marine transportation is "systems." As you may have gathered from my earlier remarks, marine transportation is growing in complexity at an ever increasing rate. In order to plan and make proper decisions which will take into account the many factors involved, the systems approach is being widely adopted.

In the systems approach, large systems are considered as single units, made up of separate but interrelated subsystems. For instance, vessel design and construction used to be a step-by-step process, with step "R" not much in mind at the time of working on step "B." In other words, a vessel was a collection of fairly separate ideas and pieces, put together as best one could. Under the systems approach, however, the ship is considered as a single piece of equipment, intended to perform a specific function as efficiently as possible. Each element—hull, propulsion machinery, cargo handling equipment, etc.—is treated as a subsystem which bears a specific relationship to all other subsystems of the vessel. In turn, the vessel system is, in a larger frame of reference, considered a subsystem of a complete transportation system.

The application of the systems approach to practical matters is called "systems engineering." It may be defined as, "the use of orderly, rational processes to investigate, analyze and design systems of any degree of complexity." With systems engineering you can take any system, no matter how complex, how large, or how many elements there are in it, and by using these orderly rational processes make basically sound decisions. You can determine much better how to plan, how to move in one way or another. And this of course has been made possible by the development of the high speed computer.

Here are two examples of the use of the systems approach in marine affairs. One on a very local, mundane micro-scale is that of the fishery co-operatives which, after many years of trial, are finally

being formed in Maine. Their purpose is solely—I don't think they consciously think of this—but their purpose is solely so they can consider the whole sea-to-consumer process of fish harvesting, processing and delivery as a single system instead of as segments which operate pretty much independently of the others.

On the macro-scale one important use of the systems approach is the container system which I mentioned earlier. It is now possible for a shipper in Dubuque, Iowa, to make one packing, one shipping from Dubuque to Tanganyika by virtue of having a container brought to his door; he loads it there, it goes all the way under one bill of lading to Tanganyika where it's unloaded only after reaching the final destination. There is none of this picking up boxes time after time, and loading and unloading.

I wish I could get into the Maine Coast Transportation System which is a system dear to my heart; however, I've probably run out of time, and so if anyone would like to go into that a little later, I'll be happy to answer any questions.

(Applause)

JOHNSON: Thank you. Well, as you see we've approached the ocean as a resource in terms of its use as a highway, and Cy has brought in the topic assigned to our next speaker, namely, what happens to this highway, what happens to this resource when man abuses it. I think Paul Ring, who comes from the Darling Center of the University of Maine in Walpole, is very well qualified to speak to this. I just learned this noon for example, among other things, he's a director of the Fisheries Development Corporation which is one step in this direction that Cy was just mentioning about co-operative approaches to marine problems. Paul.

Ocean Resources and Ecology

Paul D. Ring

My talk today will emphasize management of resources, which are needed desperately. The most unmanageable resource that I know of is the English language; take for example the title of my talk today, "Ocean Resources and Ecology." The word ocean conveys three meanings; it can be that whole body of salt water which covers nearly three quarters of the surface of this earth, the globe that we call earth. I'd just as soon dispute this now: perhaps the globe we inhabit should have been called the ocean rather than the earth. The second meaning for ocean is one of the large bodies of water into which the aforementioned greater ocean is regarded as divided. Third, an immense expanse, any unlimited space or quantity; and I'll ask you this now, is any space or quantity unlimited today? Every hour people fly over the oceans, countless ships traverse it, boats are fishing in it, we study it, we mine it, we use it in countless ways, including using it as a dump and a cesspool. Now the word resource means a new or a reserve source of supply or support. I don't know about you, but I'm not so sure there's anything new any more. The only reserves that we have in abundance today are our manpower reserves, and these reserves are stripping the earth or the ocean, whichever you wish to call the globe, of its natural resources. How long can we allow this to continue? The last word of my title and probably the last word in most people's minds is ecology. Ecology is a branch of science concerned with the inter-relationships of organisms and their environment. Or, a little more technically perhaps, the totality or pattern of relations between organisms and their environment. I ask this question, are we blind to what we are doing to ourselves when we dump poisons into our soil, air and water? The only managed language that I am familiar with is Latin. It's used by scientists to describe plants and animals in terms which do not change with time. The Latin language is otherwise described as a "dead language."

Now back to the big picture: I was going to talk a little bit about the earth's ocean, and who owns it. Thank goodness Judy Joye has talked about this in a very good way. I'll just mention briefly again here that the 25th General Assembly of the United Nations did adopt what they called at that time 'a declaration of principles governing the ocean

floor and the sub-soil thereof, beyond the limits of national jurisdiction.' No wonder people renamed it the 'common heritage of mankind.' So I will not bother to go into this at all at this point but mention that an article published in January 1972 in *Vista* magazine optimistically stated that "world order is in a process of transition from political federative association to polyvalent federative association or from a territorily-based community to a functionally-based community; from a mechanistic constitutional model to an organic constitutional model." You can pick what you like out of that. *(Laughter)* Now Judy did cover very nicely the Atlantic Ocean and how we claimed all of its bottom resources. One thing she didn't mention was the those creatures that are not said to be "creatures of the shelf", those that what I would call live in the pelagic waters or above the bottom are not considered part of the United States. Mr. Truman did his best, but I guess we still wanted a lot of those shrimp that are found in other waters in the world and tuna, anchovies, so our lobster was not made a creature of the shelf and this has been a point of much discussion. Regarding the formation of a body, a regime to manage the ocean resources, we might look briefly at those aggregations of world nations attempting to deal with international fishery problems. There are approximately twenty-five permanent international commissions, councils and other groups that call themselves by various names which have been working together. All of these are essentially advisory, appointed by someone; their recommendations for management and development are not necessarily accepted by the member states, and often times they are not accepted.

I'd like to get down to a little more of the Maine coast. I don't have to go over the various types of resources, but land is the major concern right now along the Maine coast. It's the complexity of the Maine laws and regulations that govern the coast, outlined in a five-volume series put out by the University of Maine Law School. It's very interesting to see the inner complexities of state government and agencies trying to get together and use a matrix approach to governing our coastline. Now the Shore Land Zoning Bill most of you are familiar with, I hope, is something that you certainly could stand up and talk about a lot; and as Judy says, "Get up off our fannies and do something," and I agree. It's often not the best thing for people in political or other compromising positions to do, but certainly Dr. Delogu from the University's Law School is one to get up and say what he's got on his mind and is well respected for it. But the Shore Land Zoning Bill is an important piece of legislation which will affect

our coastline. The interesting thing is that this year, as most of you know, the deadline for mandatory zoning has been extended one year, and also the significant thing that has been dropped out of the shore line areas definition is the word navigable.

Just briefly, the first statement, "to aid in the fulfillment of the state's role as trustee of its waters rather than navigable waters and to promote public health, safety and general welfare," we should get together and zone our shores. This is something that needs a lot of debate, and if any of you are on town planning boards you've certainly debated it. That's the land. Fisheries: Phil Goggins will be talking about fisheries, so I'll skip that traditional use of the coast. Recreation: the growing pressure of recreation on our coast is something I'm very concerned with. And I would hate to see a lot of the small recreational firms in the state become a fact of the past. Industry: Bill Haggett, thank goodness, is here from the Bath Iron Works (B.I.W.), that great "non-polluting" ship building firm; I came from Bath—I'm biased. *(Laughter)* But this is part of the heavy industry picture in Maine and certainly a very important part of Maine's maritime heritage. Electric power generation is something that's really going to come to the public's eye more and more, especially with atomic power generation, and I think the University's studies in this area are going to be something to watch in the near future. Light industry: of course the boating trades, the small boat builders, are a very important industry and all of the supporting services to the boating business are traditional modes of living on the coast. Minerals are something new. Minerals, both hard (sand and gravel) and soft (oil) will no doubt be mined off our coast in the near future and will affect the ecology of that area. Dumps have been used or have been maintained off the coast for many years, and the public just has not been aware of the dumps that are located off the coast of Maine. Research: I was going to talk a little bit about research, but I think if you have particular questions you can look at my mariculture display in the back of the main lecture room or we can get into this in the following discussion period. Thank you.

The other side of the coin is that about fifteen American shipbuilders are building merchant ships, the size of the ships is growing rapidly, the number of ships is increasing at a rapid pace, the cost of the ships is increasing, and we expect that within three years American shipyards will be building more ships in terms of dollar value for the Merchant Marine than for the Navy. As the commercial market expands an interesting thing is occurring. For example, our company

recently completed six containerships for American Export Lines. On the first flight, contracted for in 1966, the subsidy was fifty-four percent. Today there are subsidized American Merchant Marine vessels being constructed with subsidies ranging from the low teens to about thirty-nine percent, and I expect that some future building programs will proceed with no subsidy. This tells me that the American shipbuilding industry is closing the gap on foreign shipbuilders and that the need for subsidy is diminishing. This has come about for several reasons: First, there have been two devaluations of the dollar which have had significant impact; second and more encouraging is the fact that the productivity in American shipyards has improved as a result of new work methods and new facilities which have covered the entire range from modernization of existing yards to the construction of completely new shipbuilding facilities; third is the fact that inflation abroad is running at a more rapid rate than inflation here. As I was telling someone at lunch, three years ago in Sweden yards were paying shipbuilders about forty cents an hour less than we were paying our shipbuilders in the United States—and you know what's happened since then. So we are going to compete in the world market eventually, and it's going to have a substantial impact on the balance of payments and the American shipbuilding industry. It is a very favorable sign, and I hope that in due course we can eliminate the need for all construction subsidies.

Just to summarize quickly then, shipbuilding backlogs are large and the market for ships is very strong. Shipyards are being called almost daily by major companies and by smaller interests to put together syndicates and to finance ships. The market, of course, is being driven by the energy crisis and the obvious need to import large quantities of fuel in the form of gas and oil. Ship sizes are increasing rapidly, as I stated earlier. LNG ships of 125,000 cubic meters are selling for about one hundred million dollars per copy, and that's a lot of money for a single merchant ship! They are very complex, sophisticated ships, however, with quality control standards which are very, very stringent. Some new ships have gas turbine power plants which are coming very much into vogue, both on merchant ships and in the new flight of destroyers being built for the Navy. So ship design technology is advancing.

In terms of the people working in the American shipyards, the move to tanker construction and the change in techniques has lowered the requirement in some crafts for skilled people. Bath Iron Works is still somewhat unusual in that we have been building de-

stroyers for the Navy which require a high skill level, and therefore we have as a strong foundation highly skilled workers but also some newer people with lesser skills. We do face a problem on these large merchant ships, which demand a very substantial percentage of welders and shipfitters which are in short supply. Because of the general scarcity of skilled craftsmen, many American shipyards have attempted to move from a labor intensive operation to an automated facility which permits fewer people with high skill levels. I think that will suffice at this time, and I will be glad to answer questions later. Thank you. *(Applause)*

JOHNSON: We've covered transportation as a use of the sea. We've covered the various ways in which the sea serves as a resource for Maine. I think therefore, it's particularly appropriate that we should have a representative, as Paul said, of one of our great non-polluting industries, really the remnant of a great industry of the 19th century which disappeared with the end of wooden ships. Bath Iron Works I think has been a tremendous employer in the state of Maine, and Bill Haggett I know from personal acquaintance has been a tremendous promoter of the state of Maine, and therefore I'm particularly happy to have him here today. Bill Haggett, vice president of the Bath Iron Works. *(Applause)*

Shipbuilding

William E. Haggett

Thank you. It's a great pleasure to be here; frankly I feel very much out of water. I'm not a historian, and can barely afford the luxury of thinking about what's happening today, let alone the past, for in my kind of business we're constantly looking ahead to the future. B.I.W. is building a variety of ships, some combatant ships for the Navy and others for commerce. Our ships at best are potential polluters, but thank you, Paul, for your comments on being a non-polluting industry.

I really don't know why I was invited to participate in this event but will attempt to speak candidly with you. I feel compelled to take exception to some of Cy's comments about the fact that the larger ships per se are greater potential polluters than smaller ships, for I think one of the offsets certainly is the fact that there will be fewer of them, and since there will be fewer ships, hopefully the potential for accidents at sea will diminish. The magnitude of the problem is greater once an accident happens to a large vessel, but for those who have sailed recently, for example near Tokyo Harbor or around Great Britain, they'll know that excessive concentration of ships is one of the greatest contributors to accidents at sea and therefore pollution and all the residual problems.

Now back to the main theme of my address. The shipbuilding industry today is in a period of very strong resurgence, primarily because of the new and much stronger commercial markets. In 1972 the value of shipbuilding contracts in the United States was in the order of $2,850,000,000. Of that, some forty-eight percent was Navy, thirty-four percent was commercial, and eighteen percent others, such as the construction of barges, nonsubsidized ships and the offshore mining ship that Sun was building for Howard Hughes.

By 1975 these ratios will be reversed, with by far the largest percentage of shipbuilding in the United States for the Merchant Marine. To give you a feel for what's happening, in 1970 there were thirty-two ships delivered to the Navy, in 1971 thirty-three, in 1972 twenty-one. Consistent with that trend is the fact that in 1968 there were 134 ships under construction for our Navy, and in 1973

fifty-seven. Though fewer in number, the ships are much more complex and more expensive.

It follows that fewer shipyards are building ships for the United States Navy. At the present time I can only think of six—Litton in Pascagoula, Mississippi; Newport News, which is by far the largest builder, in Virginia; General Dynamics, with a shipyard in Connecticut, building submarines; Avondale in New Orleans, building destroyers; Bath Iron Works, building destroyers; and National Steel in san Diego which is building a single oil tanker. While there are fewer ships, the tendency is to give shipbuilders that are building vessels for the Navy a longer run of similar vessels which hopefully will produce economies and lower prices. There appears to be less interest in building for the Navy than there was a few years ago because shipbuilders have found Navy contractual terms difficult and have had problems making profits on Navy work.

Surprisingly, many American shipbuilders are facing tough economic times, with earnings having suffered during this period, which appears to be inconsistent with the large dollar backlogs and the heavy orderbooks that the shipbuilders hold. Possibly a major reason for the problems that the shipbuilders have had in dealing with the Navy relates back to the McNamara Era and the excessive paperwork that was foisted upon shipbuilders with emphasis on things such as systems analysis—not systems engineering, but systems analysis. These excessive software requirements carry over from the mid-1960's, they're still with us and they drive the cost of building ships for the United States Navy to very high levels.

The other side of the coin is that about fifteen American shipbuilders are building merchant ships, the size of the ships is growing rapidly, the number of ships is increasing at a rapid pace, the cost of the ships is increasing, and we expect that within three years American shipyards will be building more ships in terms of dollar value for the Merchant Marine than for the Navy. As the commercial market expands an interesting thing is occurring. For example, our company recently completed six containerships for American Export Lines. On the first flight, contracted for in 1966, the subsidy was fifty-four percent. Today there are subsidized American Merchant Marine vessels being constructed with subsidies ranging from the low teens to about thirty-nine percent, and I expect that some future building programs will proceed with no subsidy. This tells me that the American shipbuilding industry is closing the gap on foreign shipbuilders and that the need for subsidy is diminishing. This has come about for

several reasons: First, there have been two devaluations of the dollar which have had significant impact; second and more encouraging is the fact that the productivity in American shipyards has improved as a result of new work methods and new facilities which have covered the entire range from modernization of existing yards to the construction of completely new shipbuilding facilities; third is the fact that inflation abroad is running at a more rapid rate than inflation here. As I was telling someone at lunch, three years ago in Sweden yards were paying shipbuilders about forty cents an hour less than we were paying our shipbuilders in the United States—and you know what's happened since then. So we are going to compete in the world market eventually, and it's going to have a substantial impact on the balance of payments and the American shipbuilding industry. It is a very favorable sign, and I hope that in due course we can eliminate the need for all construction subsidies.

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will suffice at this time, and I will be glad to answer questions later. Thank you. *(Applause)*

JOHNSON: I think our speakers are doing terrifically; that was nine minutes, Bill, right within the alloted ten. *(Laughter)* It's unfortunate we don't have more time, but one of our purposes is to give you the opportunity to ask questions, so I would like to introduce our next speaker who very kindly came to us from the Sea and Shore Fisheries Lab at Boothbay Harbor where he is in charge of the planning unit which is quite concerned with the ocean as a food resource, in terms of the fisheries. It's a pleasure to present Phil Goggins. *(Applause)*

Fisheries

Phillip Goggins

Thank you, Dr. Johnson. I might add, I'm not quite used to it yet, but as of October 3rd we are no longer the Department of Sea and Shore Fisheries but the Department of Marine Resources. This hasn't changed the personality of the program one iota but perhaps will for the future. In presenting my talk today I thought perhaps it might be interesting to cover the period from World War II now and sort of attempt to develop a case history of our experience in fisheries management. And I'd like to limit this management to at least one species which we've had a great deal of experience with, the soft clam, and another, the lobster.

Shortly after World War II, when as Cy mentioned Maine saw change and dramatic change, perhaps the most dramatic changes to the fishery both from the point of view of the economics and what happened to be there were broad and rather abrupt ecological changes. The ecological change by hindsight analysis we associate with the warming trend which had the effect of warming the sea water temperatures to a peak in the mid-'50's, the highest that was ever recorded. This had a very profound effect on the distribution and abundance of some of our important marine species. Some of these effects were adverse, some were beneficial.

I'm going to consider the clam first and go back to right after World War II. At that time as fisheries managers the method used universally as a tool of management was hatching. We had lobster hatcheries, and there were fish hatcheries all over the coast. We were beginning to question the wisdom of this as the only management tool and began to develop management specialists who were to work with the towns, and for about two or three years our fisheries' managers were successful in developing some management concepts and work out some management tools with the towns and got well started on some application of management when the full impact of an adverse ecological effect hit us. The first manifestation of this was a proliferation of a clam predator, the green crab, which broke its normal bounds of Cape Cod and extended its range all along the Maine coast to the southern coast of Nova Scotia. This was a very vigorous predator and decimated the clams in most of our important producing areas. So any ideas that we had on developing management devices

stopped there, and with the help at the time of the old Bureau of Commercial Fisheries we concentrated our efforts on attempting to understand the population dynamics of the green crab and work out some method to protect our resource. Our approach was the development of a crab fence. The green crabs migrated from the deeper waters to the inner tidal area, and over a period of three or four years we devised a fence with an overhang that prevented that inshore migration of the green crab. However, this could only be applied in very, very few areas, only in those areas that had a relatively narrow seaward constriction. And actually it had not a great impact on protecting the resource, but we were able to test out some of our management techniques at the time.

Some of these techniques that we developed, the means of inventorying clams: we modified a forestry grid system and were able to do a pretty good job of making a very close estimate of standing crops and estimates of what a sustainable yield would be and took this information, working with the volunteers of the towns, to see if we could apply these in what we naively thought we would be able to do in a total management concept. Very quickly, we found that this just would not work, primarily due to attitude of the fishermen. We have the attitudes that are remnants of colonial times. *(Laughter)* The towns had the authority to manage their own resources; from colonial times clams were reserved as a sort of a food bank to be used in times when there were food shortages; remember that the utilization of these by law had to be reserved for town residents, and there was the concept of a basic right of a town to go down to the shore and dig himself a mess of clams any time he wanted. Although we were very successful in getting volunteers to work on crop rotation and things of that sort, the way it turned out, because of public property attitude, when clams were ready to be harvested—at a size that would return the greatest economic value—a great many people—it was almost an Oklahoma land rush—who did no work rushed in and harvested them. So this is one of the problems that a resource manager of a fishery faces. We would call this a "social-economic problem". *(Laughter)* These problems are the ones that we really have to solve before we can do anything in management in the fisheries.

There were other problems with which we were confronted: the one of pollution is a good example. During World War II there was almost a complete moratorium on any consideration of evaluating shell fish areas as to their public health danger. In 1947 and '48 the old Department of Sea and Shore Fisheries, the Maine Sanitary Water

Board and Maine Department of Agriculture (at that time as the quality control agency of the state) did a survey of all the shell fish areas along the coast, and immediately we designated some sixty areas as dangerous to dig and we restricted the digging in those areas because of pollution. This comprised about 30,000 acres of inner tidal and sub tidal prime shell fish habitat. As time went on we continued to evaluate the shell fish. We had a grant from the legislature which got us in to the evolution of oil pollution; we were given twenty-five thousand dollars for the biennium to do some initial studies on oil pollution and update the sanitary survey as far as the closed areas were concerned. We approached the problem of oil pollution by doing some bio-assays with adults and found that the first, greatest, strongest manifestation of oil pollution in the adults, particularly clams and lobsters, is organoleptic; after clams and lobsters were contaminated with oil the taste remained for about three weeks. We did bio-assays with some of the plankton, the larva, and they were extremely sensitive to oil.

We were rather relaxed with the sanitary aspects of this because our great concern at the time was with the anteric bacterial pathogens, the typhoid dysentary groups, and there was not a tremendous pool of these infectible organisms around the coast, so our definition of danger by today's standards was rather relaxed. We did this until in the mid-50's when it dawned on us that we had another group of anterics to be concerned about. These were the anteric viruses, the ones that cause infectious hepatitis. We had developed the ratio of the bacterial indicator organisms, the colifor, bacteria to the bacterial pathogens, but had no concept of what this relationship was to viruses. So we had to be extremely conservative, and as a result of this, and increasing pollution, another 40,000 acres of prime shell fish growing habitat had to be closed. We now have some 70,000 acres closed, and this represents about a third of what we have available; we have available approximately 350,000 acres of that type of habitat.

Again in the mid-fifties, after a near epidemic of poison manifestations along the New Brunswick coast of shell fish paralytic poison—you've heard of the red tide that we had last year. In 1957 there were deaths due to this on the New Brunswick coast; the federal government of Canada established monitoring stations, one of which was Head Harbor, Campobello Island. We saw the results of that, and it just scared us right out of our shoes; the poison levels were very, very high, and this was very close to our own waters. So the following

season—poison season for that area starts in July, ends about October—we had to turn to monitor to see if we had a shell fish paralytic problem, and sure enough we did. We had to close the Lubec Channel, and since then we've been monitoring that every year. It has been confined to the Lubec Channel and the Grand Manan Channel. The only time it grew out of the bounds of the Lubec Channel was in 1961 when it extended down the coast as far as Holmes Bay off Machias until last year, and here was another manifestation from another area which came from the west to the east. It occurred the upper part of September last year; it hasn't appeared again, and we hope this is anomoly situation and won't occur but once about every fifty years. Now as far as the clams are concerned, this change in temperature had an intitial adverse effect on the abundance, and then after we hit the peak of the water temperature, we're in a cooling trend again which our long range forecasters tell us will occur until sometime around the turn of the century. Nature itself took care of the clam predator, and the clams have returned in abundance to essentially what they were in 1945.

Lobsters are a different case. We again had almost a moratorium on the fishing of lobsters during World War II, so apparently we had a backlog of lobsters that were ready to be exploited. The higher temperatures created presumably an optimum situation as far as the growth of lobsters was concerned. So typical of this era, increasing water temperatures and increasing supply again had an effect on the economics of the lobster fishery in that many more people had an opportunity to sample the lobster, increasing the demand. So instead of having just a New England market for the lobster we had a national market and an international market. In the later '40's all through the early '50's, there was a high demand for the lobster. There was a tremendous increase in the numbers of fishermen and the numbers of traps fished, and this occurred until we hit a crest. More effort to a point showed an increase in production until about 1960 when we began to notice the results of the cooling trend affecting the supply. The effort went up in terms of gross numbers of traps, but the production began to go down. Our peak production was about 24,000,000 pounds and it fluctuates normally between 19 and 24,000,000 pounds. Today the fluctuation is between 15 and 18,000,000 pounds. The last two years we had an anomalous situation here with temperature affecting production. Instead of lobster production close to the 15,000,000 pounds it's close to the 19,000,000—we have a warming sub-cycle apparently with the long

range cooling cycle. Now for the future, it looks as if we have a very, very good case for management. The dynamics of the lobster fishery indicates a very serious over-fishing; we are taking 90% of the crop. During an adverse period there's always this possibility: if nothing is done to limit entry into the fishery, to reduce fishing pressure, we can envision the production stepping down to another level, perhaps returning to the time of the '30's, when it was down to the 3,000,000 to 6,000,000 pounds per year. So this spells out some of the problems we have in management.

If any of you attended some of those fascinating hearings on clam management and on the lobster fishery last August, you cannot help being impressed with the problem in public relations and communications we have with our fisheries. The reaction to the proposal that we presented to the diggers on clam management districts was one of the most fascinating hearings. My goodness, certainly the colonial attitude here came out *(Laughter);* most of the townspeople who had valuable clam flats didn't want "those people from Jonesboro to come over to our flats to dig." Now with that I think I've overextended my time, so I'll be prepared to answer questions. *(Applause)*

JOHNSON: Thank you, Phil. It seemed to me that Phil touched on something that perhaps we neglected in putting this session together and yet is implicit in all that has been said, namely that what the ocean is, is what people perceive it to be. And Phil I think is right on the mark when he says that year-round native Maine people who make their living from the sea perceive it as their private domain, with well defined boundaries and so on. Bill Haggett may perceive it as a place to sail. Other more polluting industries than B.I.W., as Paul suggested, look at it as a place to dump. I think, as Cy has suggested, it would be very interesting to revive some of the coastal transportation that served us so well in the 19th century, and I think technologically it's quite feasible today. But I think this human dimension is terribly important, and that's what makes Maine so exciting today. This is an exciting place to be and those of you who are "from away," as they say in Maine, *(Laughter)* should realize that most of us who are here feel that this is *the* place to be, namely because these different perceptions are now in such sharp conflict with one another, and the need for action is so pressing that anyone who wants to contribute to this is welcome to do so. The way Maine resolves this of course will have a great deal to do with how the ocean is viewed in the 21st century as a resource along these coasts. *(Applause)*

Workshop: Anglo-American Naval Traditions

Clark G. Reynolds, Moderator

REYNOLDS: I feel as if I'm on home ground; this is the room in which I have my 85-person history of war course, so I feel more secure in throwing out some of my theories, some of which may be half-baked and others not, but in here I feel very comfortable, and I hope we can get a return dialogue. Actually Phil Crowl from the Naval War College was to have chaired this session, and certainly as most of you know he did a pioneer work with Jeter Isely on the *U.S. Marines and Amphibious War* after World War II, but unfortunately like the fishermen, we discovered, the Naval War College it turned out was having a session also this weekend, and so he unfortunately had to cancel out about two weeks ago. So it was really too late to find somebody else in amphibious warfare, but we'd already set up the panel, which is fine, and I must confess that there is a built-in point of view, if you will, and that is in the title (which I created), "Anglo-American Naval Traditions" and I also stacked the deck. When we set this up I didn't even tell the people who would run these sessions who would be on their sessions, but it's very difficult to get away with things like that any more, but as long as our session is small I can.

The assumption or the bias is that there is such a thing as a common Anglo-American naval tradition, that there is a very deep relationship. Mahan's remarks certainly back in the 1890's suggested that there were certain affinities between Britain and the United States, and I'm not ever going to accept the gospel according to Mahan; it must be tested, and I would like to test it in here from the standpoint of the American-British experiences, the Canadian experience and possibly a thread between them, of looking at amphibious doctrine, which I am convinced in my work belongs to the maritime nations. There is a Russian naval infantry, and we may hear about it tomorrow, and the French had a very early marine corps, and our Marine Corps was very early in this country's history, and yet in actually developing amphibious doctrine, I'm convinced that these countries have always followed the lead of the maritime nations. I may be wrong. So what I would like to do is introduce each of these speakers separately and let them discourse on their particular subjects and then we will discuss afterward.

First, John J. Kelly, Jr.,—Jack Kelly—took his Ph.D. here actually, last June, and was I guess the first one to come out of our program here in maritime-military history and did it on "American Seaborne Independence as Viewed by John Adams," who I'm sure will emerge in your talk as a very friendly individual to the problem of freedom of passage and freedom of the seas two hundred years removed. Unfortunately, Jack is part of this new generation of 1970s Ph.D.'s who will have to wait I think until his first three books are published before he can even get into a college environment, what with the glut on the market, so he is doing what he did before he went to academe and that is teach high school and coach football which he also did before he came here *(Laughter)*, and I should also add that he carries a lot of punch: he was the Sixth Fleet heavyweight champion in the 1950s, enlisted of course, and so he knows the Navy from the worm's eye, or the fish's eye view as well as the bird's eye. Jack Kelly will speak on the American colonial inheritance.

The American Colonial Inheritance: A Nautical View of John Adams

John J. Kelly, Jr.

The United States possesses no better personal record of its colonial seafaring inheritance and the origins of its naval traditions than in the writings of John Adams.

From 1755 to 1826, a period of seventy-one years, Adams dutifully filled the pages of diaries, letters and an autobiography with accounts of his thoughts and deeds concerning naval and maritime affairs. At various times in the course of his long and active career, Adams successfully or unsuccessfully struggled to secure a seaborne independence for Massachusetts, New England and the United States from the colonial oppression of British mercantilism, the maritime manipulations of France, the depredations of the Barbary powers, and the commercial wars of the seafaring European nations. The public and private records of Adams' role in defending the maritime rights and interests of his state, his region and his nation reveal him as the dominant figure in the struggle for American seaborne independence during his lifetime.

As a young lawyer in maritime Massachusetts, John Adams opposed the injustices of British colonial rule, but he never seriously considered advocating a permanent independence from Britain. An heir of the Reformation who despised arbitrary power in any form, Adams believed equality and justice could be achieved among men if they honored impartial laws and the lessons of history. The origin of the American Revolution occurred, in Adams' view, when in 1761 the British exploited their victory over the French by issuing writs of assistance to royal officials in the colonies for the purpose of enforcing the navigation acts. In the ensuing years, Adams appeared in Admiralty court cases to defend clients whom he considered to be victims of unlawful British practices including the court itself. On a legal level, therefore, he directly challenged Britain's suppression of the maritime commerce of Massachusetts. When Britain reacted to the Boston Tea Party by occupying the town with troops and establishing an indefinite blockade of the port of Boston, the constitutional rights upheld by Adams were overridden by martial law; Massachusetts' maritime commerce, the lifeblood of the colony, became engaged in a struggle for mere survival. In 1774 Adams accepted an

appointment to represent Massachusetts in the first Continental Congress where he hoped to gain a unified support for his beleagured colony that would pressure the British ministry into rescinding the Boston Port Act.

Adams crossed the threshold from protester to revolutionary when British policies left him with no other choice. At the First Continental Congress, he voted for non-importation and non-exportation protests against Britain's mistreatment of Massachusetts. The following spring, however, when fighting broke out at Lexington, Concord and Bunker Hill, Adams could see no choice for Massachusetts but to fight a defensive war against the British Army and British Navy or be enslaved. As a delegate to the Continental Congress in the fall of 1775, he contributed significantly to the defense of Massachusetts by serving on a committee to fit out armed vessels and then the Naval Committee which created the Continental Navy. Adams ceased to be a protester and became a revolutionary when he learned of the Prohibitory Act passed by Parliament in December 1775 which declared all colonial vessels and cargoes liable to seizure. Adams interpreted the Prohibitory Act to be a declaration of war against the colonies by Britain. In March 1776, therefore, Adams returned to the Continental Congress and moved in the direction of independence by voting for the revolutionary privateering resolves which authorized American private armed vessels to capture British merchantmen on the high seas. A few weeks later, he applauded the decision of Congress to open American ports to foreign shipping, another step toward independence. Finally, Adams signed the Declaration of Independence in July which formally declared the colonies to be free from Britain. Thus began the struggle for American seaborne independence.

Adams' diplomacy in France and Holland during the American Revolution focused on the naval war against Britain and the maritime problems of Massachusetts and the Continental Congress. Concerned for the future of the Massachusetts fisheries, Adams accepted an appointment from the Continental Congress in 1778 to be a joint commissioner to France with Benjamin Franklin and Arthur Lee. In France, Adams assisted in directing the affairs of the Continental Navy and urged the French foreign minister Count de Vergennes to gain command of the sea off North America. After a brief return to Massachusetts, Adams arrived back in France in 1780 with commissions from the Continental Congress to negotiate treaties of peace and commerce with Britain. A break in the relations between Adams and

Vergennes occurred over the commissions and the French foreign minister's unwillingness to send a sizeable fleet to the North American coast. Frustrated in France, Adams went to Holland where he received a commission from the Continental Congress to negotiate a loan from the Dutch that would stabilize American currency. Though Adams succeeded in securing a loan from Dutch bankers, he could not get the United States admitted into the Russian-sponsored League of Armed Neutrality. Failure to gain entrance into the League disappointed Adams because he viewed it as a means of countering Britain's arbitrary rule of the seas and forcing the British to end the war.

The French Navy brought the war to a close in North America when, in accordance with Adams' strategy, it defeated the British Navy in the battle of Chesapeake Bay, which then made possible Washington's victory at Yorktown. A year later, after signing treaties of amity and commerce with Holland, Adams returned to France to negotiate a preliminary treaty of peace with Britain. The British negotiators promptly recognized American independence, but refused to acknowledge Adams' claims to rights in the North American fisheries. Fearing that Britain and France were collaborating to exclude the United States from the fisheries, Adams issued an ultimatum on the last day of the negotiations which helped pressure the British to concede the Americans a "Right" to fish in the northern seas and a "Liberty" to use certain Canadian coasts for drying fish. In the months following the signing of the preliminary peace treaty, lack of appropriate commission powers and a shift to a conservative ministry in the British government thwarted Adams' ambition to negotiate a reciprocal commerce treaty with the British based on equality. After signing the definitive treaty of peace with Britain on September 3, 1783, Adams devoted his energies to finding and establishing markets for the maritime commerce of Massachusetts and the other seafaring states of the United States.

As a Minister to the Court of St. James from 1785 to 1788, Adams tried in vain to negotiate a commercial treaty that would, in effect, re-establish the patterns of maritime commerce which existed between the British and the Americans prior to the War of Independence, particularly in the West Indies. He especially wanted the British to recognize the now independent Americans as equals in all commercial agreements. Adams' diplomatic efforts to negotiate a commerce treaty were undermined, however, by Britain's continued adherence to mercantilism, the unneutral attachment of the United

States to France, the eagerness of American merchants to buy British goods, the short-sighted views of the landed interests in the United States, and the inability of Americans to pay debts owed to Britain. To retaliate against Britain's mercantilistic policies and her refusal to sign an equitable commerce treaty, Adams argued that Americans should establish their own navigation acts and also seek new markets for maritime commerce in France and the Mediterranean countries. He disagreed with Jefferson's costly suggestion that an American navy be built to fight the Barbary pirates and insisted that tribute payments would be a less expensive way to deal with the problem of piracy. Nevertheless, with the exception of Morocco, Adams and Jefferson were unable to bargain with the Barbary States because the Continental Congress could not send them enough money. Powerless in his role as a diplomat, Adams criticized the Articles of Confederation for not providing the central government with authority to collect revenues that could be used to liquidate the wartime debts, pay the Barbary tributes, and establish a sound currency for maritime commerce. Adams' struggle for American seaborne independence, therefore, offered sound and practical reasons for creating a new consitution.

While serving as Vice President and then President of the United States, Adams dedicated himself to achieving a respected neutrality for American maritime commerce in the chaotic era of the French Revolution. During his vice presidency, he counseled Washington to adopt a foreign policy of neutrality and particularly stressed that the United States should avoid a war with Britain. The Jay Treaty disgusted Adams because it gave Britain a right to seize French cargoes being carried by American vessels, an unneutral privilege which could also be claimed by France in her war against British maritime commerce.

After he became President in 1797, Adams' initial attempt to settle maritime differences with France ended in the infamous XYZ Affair, which led him to commence an undeclared "Quasi-War" against the French Directory. To protect American merchantmen from the depredations of French cruisers in the West Indies and off South America, Adams established the Department of the Navy, which under the guidance of Benjamin Stoddert created a United States Navy of fifty vessels to fight the limited and defensive war against France. Adams' unwillingness to declare war on France angered many of the supporters of Alexander Hamilton whose militarism and

dreams of conquest were abhorrent to the President. Ignoring the protests of Federalist leaders in his cabinet who admired Hamilton, Adams sent a second peace mission to France which eventually brought an end to the Quasi-War by signing the Convention of Mortefontaine. The news of the agreement with France did not arrive in the United States in time to prevent Adams from being defeated in the 1800 Presidential election. In an age of polarized politics generated by the French Revolution, Adams had sacrificed his political future to the goal of achieving a real neutrality for the maritime commerce of the United States.

During the last twenty-five years of his life, Adams continued to champion the cause of American seaborne independence as a private citizen in Massachusetts. Reflecting the struggle for survival experienced by maritime New England for decades, Adams remained firm in his convictions that Massachusetts could not enjoy total political freedom unless its seaborne trade had economic independence, nor could the United States expect to preserve the Union without a respectable navy. When the Republicans laid up the frigates of the United States Navy and began to build a fleet of gunboats for coastal defense, Adams understandably became furious. He criticized Jefferson's Embargo Act of 1807 as a "cowardly measure" to use against Britain's war-provoking Orders in Council. British impressments of American sailors were for Adams the most striking examples of Britain's contempt for the neutrality and maritime aspirations of the United States. The Republicans and their landed supporters made the War of 1812 inevitable, according to Adams, by refusing to construct a frigate navy that could check the abuses committed against American merchantmen. After Congress declared war on Britain, Adams applauded the spectacular victories of the few United States frigates. For the inept and expensive American army operating in the Great Lakes region, he had nothing but scorn. Near the end of the war, Adams condemned the secessionist-minded Hartford Convention of New England Federalists. In the months following the Treaty of Ghent, he counseled John Quincy Adams, negotiating subsequent agreements with the British, not to surrender any rights to the fisheries which had been won in the Treaty of Paris (1783). As an alert old man in his eighties, John Adams kept a watchful eye on British sea power while urging his countrymen to build a strong navy that could secure a neutrality and seafaring independence for American maritime commerce.

The deaths of John Adams and Thomas Jefferson on the fiftieth anniversary of the Declaration of Independence signaled the passing of one era and the beginning of another in United States history. For half a century after the Declaration of Independence, Adams of maritime Massachusetts and Jefferson of agricultural Virginia symbolized the two states which had led the war for independence against Britain and then dominated American politics in the early years of the Republic. Just as Adams gradually faded into obscurity after losing the Presidential election of 1800, so too did New England, which became more and more remote as the nation moved west in the opening decades of the 19th century. A tragic figure in his old age, John Adams passed on the legacy of his frustrating struggle for American seaborne independence to John Quincy Adams who, like his father, had to pursue the elusive goal within the context of Britain's sovereignty of the seas. When John Adams and Thomas Jefferson died in 1826, the waning political prestige of Massachusetts and Virginia died with them. Two years later, President John Quincy Adams was overwhelmingly defeated in a Presidential election by General Andrew Jackson, a man who personified the spirit of the frontier and the rising West. The period from 1826 to 1828, therefore, is a "watershed" in American history—when the United States completed its evolution from the Age of Adams and Jefferson into the Age of Jackson.

(Applause)

KELLY: Just one comment before I leave: The book everyone is receiving, the 1802 *(U.S. Naval) Regulations*, were brought in by John Adams in 1775 by the way, not by Thomas Jefferson.

REYNOLDS: Mr. Kelly gets a commission for plugging the sales of those. Turning to the British side now, and going on into the late 19th century, Jim Stokesbury did his work at Duke—the same time I was there, with Professor Ropp—in naval matters and dealt with the interesting problem and almost non-existent phenomenon of British amphibious doctrine that culminated in the debacle at Gallipoli. He is now at Acadia University in Wolfville, Nova Scotia. So we'd now like to turn to the problem of both British naval doctrine in the late 19th century and to the history of amphibious warfare.

British Amphibious Doctrine Before Gallipoli

James L. Stokesbury

In the generation before the First World War the British, along with nearly everyone else, failed to realize fully the problems or the potential of modern industrialized warfare. Even while they slid into the morass of continental alliances, they clung to the shibboleths of navalism and the all-volunteer army. Their higher commanders scoffed at the staff system as a foreign affectation, and any calls for new ideas and new techniques were met with the standard rhetoric of military politicians. After all, through the nineteenth century Britain had a pretty good track record, and there seemed little need for slavish aping of Prussians or Frenchmen.

Modernization did come, of course, and it would be a mistake to overstate the case against the forces. Percy Scott succeeded in revolutionizing British naval gunnery, Sir John Fisher brought in the *Dreadnought*, and the Army did get a staff system, even if it tried not to utilize it.

There was one item on which both reformers and reactionaries could agree, one comforting thought on which all could fall back in times of stress. Everyone pointed out that in the event of war, Britain had a peculiar position: she was an island and therefore a naval power, and from that it followed that her strategy was to be amphibious. That made all the difference. Let France or latterly Germany build as she would; the advantages conferred on Britain by her navy and her command of the sea; by her amphibious strategy, were so great that she would prevail. Because of this Britons need have no fear of a great continental land war, and they said this over and over again.[1] It was one of the great military illusions of the prewar period.

Unfortunately, this illusion was based on experience, which made it that much more difficult to eradicate. In the sixty-odd years before 1914, Great Britain had fought a whole series of minor campaigns that had elements of amphibious operations about them. In these she had been uniformly successful. Her army and navy had cooperated in defeating the Abyssinians in 1867 and they had chastised the Ashantees in 1873. A decade later they fought one of the most notable minor campaigns of the century in the occupation of Egypt. They played a smaller scale and less happy repeat performance in the operations

around Suakin, designed to assist the Gordon Relief Expedition of 1884. Next year, in the Third Burmese War, a neat little riverine operation had overthrown the King of Ava. Finally, in 1900, the Navy and then the Army and Navy together had performed very creditably in North China, taking the Taku Forts and helping put down the Boxer Rebellion.

In each of these campaigns various deficiencies had been revealed, usually of a logistical or administrative nature, and some of them had resulted in Royal Commissions to investigate them. Normally the only positive result of these commissions was to provide future historians with a fair amount of documentary material. It was difficult to quarrel with success, and the various commissions had to content themselves with occasional remarks that costs seemed exorbitant, and similar gentile rumblings.

The problem was not that the successes were illusory—they were real enough in their context—but that the quality of the opposition was misleading. In no case did the British encounter a first-class enemy. Only against the Chinese did they have to make an opposed landing, and the Chinese proved fatally deficient in training, morale and firepower. Only at Alexandria and the Taku Forts did the Royal Navy undertake any substantial shore bombardment, and the results were so open to varying interpretations that little positive could be drawn from them. In Toynbee's terms, the challenge faced by Britain in these minor campaigns was insufficient to force an upward response from her military services. She was left with the comforting idea that she knew all there was to know about amphibious warfare, and that it would always be a cheap and easy way to do things.

One result of this was that the modernization that did occur in the services before the First World War bypassed the question of amphibious operations. As Britain sailed towards the war, with her military writers and theorists still making airy remarks about her amphibious strategy, there was no real development of an amphibious tactical or strategic doctrine. In fact, there was no real effort at interservice cooperation at all, so an amphibious doctrine was really but a secondary failing deriving from this major shortcoming.

Both services continued to work together on an *ad hoc* basis when faced with some unforeseen contingency or emergency. But beyond that, in planning, logistics or administration, each preferred to act as if the other did not exist. Their attitudes towards each other were of off-handed contempt, as Kitchener betrayed when he once wrote,

"You see, Navy men are all more or less alike"; Sir John Fisher put it even more bluntly when he blurted out that "any silly ass could be a general."[2]

It would appear axiomatic that a viable amphibious doctrine could be based only on solid army-navy cooperation: that in turn could only be derived from the development of a working general staff system. This was precisely what both services lacked in the prewar years. In the Army it was not until after the South African War, and the recommendations of the Esher Committee, that a general staff was set up and the reorganization of the War Office undertaken. This of course was the genesis of the Imperial General Staff. During the period when Haldane was Secretary of State for War, from 1906 to 1912, the General Staff actually functioned as such, undertaking war studies and making contingency plans, as well as advising the Cabinet Committee on Imperial Defence. Perhaps ironically, it considered in 1906 the seizure of the Dardanelles, should a European war break out, and concluded that this would be a hazardous operation, that it would require both naval and military action, and finally that the risks were so great it recommended against it.[3]

The Royal Navy too finally got around to setting up a staff system, but not until 1911. Sir John Fisher, First Sea Lord from 1904 to 1910, was simply not a staff man, and would have nothing to do with one. The admiral who insisted on modernization of the Navy in a material sense, and fought his point through to victory, was as blind as his opponents when it came to administration. His successor was Sir Arthur Wilson, a sort of Fisher writ small, who felt exactly the same way his predecessor did. One of the reasons Churchill went to the Admiralty in 1911, after the Agadir crisis, was to set up a staff,[4] but of course Churchill turned out to be another Fisher, neither disposed to create staffs, nor, when they were in existence, to pay any attention to them.

In 1890 a Royal Commission examining the military and naval administrations had concluded, "little or no attempt has ever been made to establish settled and regular inter-communication or relations between them, or to secure that the establishments of one service should be determined with any reference to the requirements of the other."[5] Speaking a quarter-century later, Sir Sydney Freemantle, Deputy Chief of the Naval Staff, could still complain,

> There was, in my judgement, one sphere only in which co-operation with other national activities was lamentably deficient. I refer to our relations with the War Office, which held scarcely any communication with us

> except on the highest levels of the War Cabinet. The demands upon the sea forces for our oversea expeditions, existing and prospective, appeared to receive no consideration whatsoever, and the high military strategy apparently took no account of them. The plans and projects of the Imperial General Staff were carried to the point of completion. . .without the Admiralty being consulted in advance.

Freemantle points out that the Dardanelles was an exception to this general state of affairs, but any familiarity with the muddled conception, planning and execution of the Dardanelles campaign reveals what a catch-as-catch-can affair it was, right from the start.

If the staff developments of both services were late-blooming, at least they were in existence by 1911, and one might have expected something from them. As it happened, these delayed growths were cut short at the outset of war. Fisher came back to the Admiralty, and he, Churchill and Wilson, who was now retired but whom Churchill liked, ran the Navy out of their collective vest pocket. Over on the Army side, Kitchener was appointed Secretary of State for War, to give Asquith's government a slightly more martial posture, and he of course shunted aside the entire army organization, including the Territorial Forces, and more important in this context, the staff system. The War Office might not fear the Kaiser, but no one gainsaid the ex-Sirdar of Egypt. Amphibious planning and cooperation was a minor casualty of these strong personalities; the loss of the Dardanelles campaign and the 214,000 British casualties at Gallipoli rather more major.

All of this is more by way of saying why there was no development of a modern doctrine of amphibious warfare, rather than of saying there was no doctrine at all. There was the background of experience; there was also, in the period before the war, a small number of books that tried to deal with some of the problems of landing operations. Unhappily the experience had been bypassed by technological change, and the books tended not to be very influential.

In the campaigns mentioned earlier the British had learned the basic method of carrying out a landing operation. Within the terms of what they had to contend with, they had been constantly triumphant, and their examinations of minor failings and shortcomings had led them to make progressive improvements. As early as Abyssinia they had known the importance of having a port to use—and in fact they had had to create one in Annesley Bay, their landing area. In Egypt, though they failed to learn much about shore bombardment, they did begin to recognize the importance of combat loading. The shelling of

the Alexandria forts was a more-or-less independent naval action, but in their landings along the Suez Canal they did use some gunboats as inshore fire-support ships. Similar work was undertaken at the Taku Forts, and they did this at Suakin, though the results were not entirely satisfactory. In Aston's *Letters on Amphibious Wars* he remarked, "Personally, I have only seen. . .supporting fire attempted on one occasion, just before the battle of El Teb in 1884, and then a war vessel at Trinkitat appeared to throw some heavy shells at the 10th and 19th Hussars, and none, as far as one could judge, at the enemy."[7]

None of this experience led the British very far. They made nothing that could really be called an opposed landing by European standards, and therefore they did not develop an armored landing boat. Pulling boats, at best towed by steam pinnaces, continued to be regarded as fully adequate. As early as the bombardment of Alexandria observers noted the problems of ships firing at shore targets; theorists were fully aware of the difference between flat trajectory naval guns and the high trajectory guns needed for artillery support fire. Such specialized vessels were not developed, however. It took the demands of war itself to produce the monitors—and even then the first of them had to be acquired from British yards producing them not for the Royal Navy, but for the Brazilian government. So in doctrine, and therefore in specialized material, the British forces entered the war very ill-prepared for what they still regarded as their traditional strategy.[8]

There had been writers interested in the problems of amphibious operations. Major-General C. E. Callwell, who served as Director of Military Operations and Intelligence in the first two years of the war, had written in 1905 a book called *Military Operations and Maritime Preponderance*. Another writer, Major-General Sir George Aston, R.M., wrote *Sea, Land, and Air Strategy*, and also *Letters on Amphibious Wars*. Both of these writers were far ahead of their contemporaries in their own particular field of interest. Callwell's book, for example, is virtually a critique of the mistakes to be made at Gallipoli ten years later. Without belaboring the point, both writers reached practically identical conclusions, that modern technology had rendered landing operations increasingly hazardous, especially now that the defense seemed predominant over the offense, and that it might well be impossible to make a landing against a well-positioned and determined enemy. Both went on from there to call for the development of most of the specialized equipment that would be evolved too

late for the First World War, but in time for the Second: protected motorized landing craft, fire-support ships, improved methods of short-range communication, better spotting techniques for fire detection, and most of the techniques we associate with the landings of World War II and subsequent wars.

All of these things would cost money, of course, and the services, already caught up in expensive changes and with a host of other apparently more pressing things to consider, paid scant attention to calls for improvement in an area of operations where they thought they were already doing quite nicely. Aston and Callwell remained voices in the wilderness, though it is perhaps not inappropriate to suggest that, in a nation whose recent military past includes Salerno, Iwo Jima and Inchon, their names should be as well known as those of Fuller, Liddell Hart and Guderian.

It must be restated that neglect of an amphibious doctrine was not the only, nor even the major, failing of the British services before the war. When the test came, after all, they did get ashore at Gallipoli, and they did consolidate their beachhead, even though they subsequently proved incapable of breaking out and exploiting it. There would be little point here in trying to consider the larger question as to whether or not success at the Dardanelles would have won the war; that argument can be carried on forever. The whole operation, as all their other operations, revealed flaws and failings equally as serious, and brings us back to the general point that none of the belligerents was really ready, materially, psychologically, or in any other way, for the monster they had unleashed in 1914.

So what we have here is the lesser point then, that in the years before 1914 the British services, by failing to develop a doctrine for amphibious war adequate to the demands of war itself, deluded themselves as to the options available to them when the war came along. By denying themselves that option, they locked their country ever more firmly in the quagmire of the Western Front and its attendant horrors. Further, one can conclude that their doctrinal failure stemmed largely from the successes—ultimately illusory because too easy—of the colonial campaigns before the war. From the point of view of the men at the Dardanelles, the Cartagena expedition of 1740 should have taken place in 1900. *(Applause)*

Notes

[1] See, for example, J. F. Maurice, *The Balance of Military Power in Europe* (Edinburgh, 1888), p. xiv; G. F. R. Henderson, *The Science of War* (London, 1905), pp. 28-36; C. E. K. MacQuid, *Strategy Illustrated by British Campaigns* (London, 1904), pp. 239-240; and Sir John Fortescue, "Joint Expeditions", *Army Review* (January 1913), IV, 1-15.

[2] Kitchener in a letter to Lady Salisbury, 28 October, 1903, quoted in P. Magnus, *Kitchener, Portrait of an Imperialist* (London, 1959), p. 228; Fisher as quoted in A. Marder, *From the Dreadnought to Scapa Flow: The Royal Navy in the Fisher Era, 1904-1919; The Road To War*, 5 vols. (London, 1961-1965), I, 384.

[3] Sir William Robertson, *Soldiers and Statesmen*, 2 vols. (London, 1926), I, 77-78.

[4] R. Dawson, *Winston Churchill at the Admiralty* (Toronto, 1940), p. 5.

[5] *Preliminary and Further Reports. . .of the Royal Commissioners Appointed to Enquire into the Civil and Professional Administration of the Naval and Military Departments and the Relation of those Departments to each other and to the Treasury*, C.5979, in Great Britain, House of Commons, *Sessional Papers*, 1890, XIX, vi.

[6] *My Naval Career, 1880-1928* (London, n.d.), p. 258.

[7] (London, 1911), pp. 54-55.

[8] Doctrinally, there was in fact one official statement produced. Just before the war a committee did write a *Handbook of Combined Operations;* this book, however, is not found on the War Office List, and apparently was never printed. It was probably circulated among senior commanders for comment and did not arouse sufficient interest to warrant publication.

REYNOLDS: Thank you, Jim. And then there's the Americans beginning to participate im amphibious operations, and we have with us Kenneth Clifford who is a lieutenant colonel in the Marine Corps Reserve and has done much of his time, shall we say, within and without of the Corps studying not only American amphibious doctrine from the standpoint of the Marines but also including the British tradition. He has in galleys a government publication, a Marine Corps history, that will be out in December: *Progress and Purpose: A Developmental History of the United States Marine Corps From 1900 to 1970*, and is also hard at work on an analysis of british and American amphibious or combined operations from 1920 to 1945. He will speak to the problems and developments of amphibious doctrines in the two countries between the World Wars. Colonel Clifford.

Anglo-American Interwar Amphibious Doctrine, 1920-1940

Kenneth J. Clifford

Unlike the British, where no one military service was associated with amphibious operations, including the Royal Marines, in America the United States Marine Corps has been the primary instrument of conducting 'seizure and defense of advanced bases' since 1894.

In my discussion, while I only mention Marines, I am of course referring to the whole 'Marine Corps/Navy' Team—they cannot be separated.

However, in the area of the doctrinal development of amphibious operations during the 1930s, the Navy part of the team was preoccupied with preparing its ships and personnel for the traditional role of the battle fleet; consequently the Marine Corps concentrated on requirements of amphibious assault—and rightly so.

This requirement was met through a process of development which encompassed three parallel endeavors:

(1) development of a body of doctrine;

(2) the development of specialized techniques to apply the doctrine; and

(3) the development of specialized equipment to make the techniques practical and meaningful.

In all three areas the endeavor was required to start from an initial zero and to proceed in an atmosphere of stringent budgetary economy.

At the end of World War I, Japan was in control of the German mandated islands of the Palau, Mariana, Caroline and Marshall groups, and in possession of a truly modern fleet. The impact of Japan's new position on U.S. policy was not generally recognized, and fitted very well into the anti-war/isolationist feeling descending on America in the 1920s. Nevertheless, military planners had to consider the probability of an eventual conflict with Japan. The 'Orange War Plans', made as early as 1904, had to be continually updated during the interwar period.

One of the military planners thinking about such an eventuality —that is facing the Japanese sooner or later—was Major Earl H. Ellis, U.S. Marine Corps, who foresaw not only the probability of such a war but also predicted its essential features. In 1921, while

assigned to the Division of Operations and Training at Headquarters Marine Corps, he wrote a study entitled 'Advanced Base Operations in Micronesia.' Included in this paper were not only strategic plans but also detailed guidelines on the tactics and techniques to be employed against Japanese-held islands in the Pacific. This plan later became the 712D-Operation Plan and was the Marine Corps contributory plan to the Navy's ORANGE Plan.

Also in 1921, Colonel Robert H. Dunlap, U.S. Marine Corps, closely associated with Major Ellis, published an important analysis of the Dardanelles-Gallipoli campaign which laid down fundamental requirements for the infantry component of an amphibious fleet. Significant in his analysis was his insistence that fleet infantry comprise a balanced force of all arms, carefully trained for the assault mission and supported by meticulous planning.

Marines by 1920 assigned to the assault force were called the Advanced Base Force and a year later redesignated the Expeditionary Force.

In 1922 and again in 1924, Navy and Marine Corps units conducted amphibious exercises at Culebra Island off Puerto Rico. In the 1924 exercise, Marines experimented with pontoon bridging equipment to create an artificial harbor similar to what the British had used at Gallipoli. By 1925, the Expeditionary Force at Quantico consisted of infantry, artillery, engineers, signal troops, tanks and aviation units, all of which were equipped and trained for service with the fleet. The British at this time had no counterpart for this type force—that is a complete expeditionary force including air.

In the same year, 1925, a similar though smaller force was organized for the West coast and stationed at San Diego.

Although the years from 1925 to 1930 were devoid of any significant amphibious maneuvers by Marine Corps units, development did not cease completely. In Nicaragua, to which the Marines were sent in 1927, attention was focused on small unit tactics with the attendant requirements for initiative and aggressive leadership at the small unit level. Also, the Marine Corps learned the value of close cooperation between air and ground elements of the same force. Unlike many British and American thinkers who believed the introduction of aerial combat in World War I spelled the end of amphibious operations, Marines believed an integrated air arm complemented and indeed gave the Naval and Landing Force Commander an added weapon.

It seemed by 1930 the realization at the policy-making level that an amphibious assault of defended beaches was feasible and that, in-

deed, future wars would demand the execution of such operations. This certainly was true for America as all our war plans, particularly the ORANGE plan, were based on projecting our armies over vast sea routes. For Britain, experience and geography dictated that the home islands had to be protected against invasion. As far as amphibious operations were concerned, they were useful for diversionary purposes only—that is before Dunkirk.

As the relaxation of tension in China and Nicaragua gradually released Marines in substantial numbers, the various elements of the developmental process began to become complementary to each other. The Marine Corps Schools began to devote major effort to the study of amphibious doctrine and proceeded to prepare a "Text for Landing Operations" in 1931. This draft manual was based primarily on pure theory developed at the Schools together with tests conducted at Quantico utilizing experimental landing craft as well as the experimental loading of a transport. The Text for Landing Operations was never published because of other immediate commitments, but it was the first effort to put on paper amphibious doctrine.

Concurrently with the Text for Landing Operations, the students at Marine Corps Schools were addressing themselves to amphibious studies. During the academic year 1932-33, the details of the Dardanelles-Gallipoli campaign were analytically studied and work was commenced on the first Advanced Base Problem, called 'DUMANQUILAS', a hypothetical landing in the Philippines, which was studied jointly by the Schools and the Naval War College. This problem followed closely the then current plan for a Pacific War.

As the Marine Corps Schools became concerned with the development of doctrine, action was being instituted to organize a force capable of implementing the doctrine as it evolved. This force, the Marine Expeditionary Force, would now become the Fleet Marine Force which would provide the Navy with a 'type-force' of reinforced infantry with the specific mission of executing amphibious assaults. The FMF was organized by the Commandant of the Marine Corps for operations with the Fleet and as such was commanded by the Commandant when not embarked on board vessels of the Fleet or when engaged in Fleet exercises. Thus it became in 1933 an assault force for specifically conducting amphibious operations. (The British at this point did not have a specific force, but in 1942 at the height of the war Vice Admiral Mountbatten, then Chief of Combined Operations, recognized that special troops should be trained and made available

for such operations. The British therefore created Force 'J', an assault force with ships and arms. Lord Mountbatten, in a memorandum in November 1942, suggested that the American Chiefs of Staff might want to form "an American counterpart to Force J." That comment does not speak well of the Public Information officer of the U.S. Marine Corps at that time).

In spite of the fact that the FMF was established, it still needed a basic doctrine to guide its training, and the fleet elements, which were to be involved in amphibious operations, required guidance as to how they would perform their tasks in concert with the landing force.

In November 1933, the Commandant of the Marine Corps directed that the Marine Corps Schools devote their total resources to the completion of the work begun in 1931 and embodied in the Text for Landing Operations. During the latter part of 1934 the "Tentative Manual for Landing Operations" was published. The prophetic nature of this publication is dramatically exemplified by an examination of the six elements into which amphibious doctrine was subdivided: (1) Command relationships, (2) Naval gunfire support, (3) Aerial support, (4) Ship-to-Shore movement, (5) Securing the beachhead, and (6) Logistics. These functions, together with communications, form the basis to a greater or lesser degree of amphibious doctrine today.

Supported by regular maneuvers, which tested its theory, the Tentative Manual for Landing Operations underwent detailed modification until 1938, when the Navy adopted it as Fleet Training Publication 167. The publication was refined steadily though the war, but it remained the basic guide for the planning and the training that produced all United States amphibious operations during World War II. The basic doctrine set down in 1934 withstood its prolonged trial by fire without fundamental change.

Beginning in 1935, the Naval War College, the Marine Corps Schools and units of the fleet took up the arduous task of refining the techniques which were to convert a doctrinal theory into the kind of practiced teamwork required for military success. Annual fleet training exercises from 1935 through 1941 provided continuing laboratory tests of the basic doctrine. Conducted at Culebra, the island of San Clemente near San Diego and in 1941 at New River, North Carolina, these exercises refined amphibious staff work, stimulated the evolution of amphibious craft and radio equipment, underscored the need for improved gunfire and air support doctrine, and gave practical experience to the forces involved.

Along with developments in doctrine and technique there was a corresponding demand for specialized amphibious craft. In 1936 a destroyer, the USS *Manley*, was converted for troop transport purposes and became the forerunner of the World War II attack destroyer transport (APD).

By 1937, a few acceptable prototypes of landing craft had been developed, at which time the Marine Corps interested Andrew J. Higgins, a New Orleans boat builder, in adapting his excellent surf craft to military purposes. In 1940, the Marine Corps proposed to Higgins that he design a ramp type bow for his boats to permit the discharge of vehicles, and when this development received Navy approval the landing craft which were used around the world went into mass production in the form of LCVPs and LCMs.

Amphibian vehicles had received their initial impetus in 1924 when the Marine Corps tested the 'Christie amphibious Tank'. Unfortunately tests showed that the then Christie tank did not possess an adequate degree of seaworthiness, but the Marine Corps in the early 1930s concluded that tanks, if landed close to the early assault waves, would prove valuable in the assault and even justify less artillery strength. Ironically, the predecessor of the modern amphibian tractor was designed as a non-military vehicle for the rescue of downed aviators and hurricane victims in the Florida Everglades. The developer of the craft was Donald Roebling. Officials of the Navy and Marine Corps upon first seeing a picture of Roebling's craft, called the 'Alligator', in the October 1937 issue of *Life* Magazine, prevailed upon Roebling to produce a military prototype for them. Within three years and after many modifications and tests the first LVT-1—Landing Vehicle Tracked—came off the assembly line in July 1941. The wisdom of prewar interest in the amphibian tractor was strikingly demonstrated in the Pacific campaigns of World War II.

By the time the United States entered World War II in December 1941, her arm of amphibious warfare had all the essentials for successfully carrying it out—marines, doctrine and landing craft. The test was to come eight months later on an island few Americans had ever heard of—Guadalcanal.

Thirty five years after Gallipoli, Rear Admiral Maund, RN, a pioneer in amphibious operations, or combined operations in British parlance before World War II, stated:

> Gallipoli had imagination; it had promise of great strategic gains; while the reasons for its failure could easily be discerned and had to do with

> lack of technique, material and belief in this form of warfare; shortcomings that could all be overcome.

That statement was of course very true. However immediately after World War I the legacy of Gallipoli left the British Army with fearful regard for defensive power of small arms fire. As for amphibious warfare, they felt it was suicidal to approach a defended beach in ships' boats, the only craft available. In spite of the successful application of the principles of combined operations at Zeebrugge on the Belgian Coast in 1918, the military in general looked at the carnage at "V" beach at Gallipoli and blamed it on the superiority of defensive fire power rather than deficiencies of material and planning.

The lessons of Gallipoli were studied at the three Staff Colleges in the United Kingdom as well as in America and Australia. Beginning in 1921, the British studied combined operations for about a month within each staff course and then concluded with all military services getting together in a constructive exercise at Camberley, the Army Staff College. The problems of conducting amphibious operations as they pertain to the recapture of Singapore or Hong Kong were similar to the American Marine/Navy Advanced Base Problems mentioned previously.

The most important factor was that the military services got together and soon learned to appreciate each other's problems. Also, in this way not only was the study of combined operations kept alive but a manual was gradually compiled stemming from the lectures and solutions to the problems. Later editions occurred in 1931 and 1938. Thus the 'Manual of Combined Operations', as it was known, was an inter-service Confidential book which superseded the four paragraphs in the 1914 reprint of the Field Service Regulations, which up to 1925 had contained the only reference in any official book to combined operations.

About 1925, the question of the design of a Motor Landing Craft took shape. After considerable discussions as to which service would have to pay for it, a prototype was constructed. This was a flat-bottomed affair with square bow and stern. It was propelled by water-jet propulsion, and the unloaded weight of the craft was approximately 20 tons.

In the summer of 1927 the MLC underwent trails and was not a great success. With the wind astern it made about 6 knots, and the engines were so noisy that all chance of tactical surprise had to be given up when these craft were used.

By 1930, there were three of these craft in existence and when Britain entered the war in 1939 the whole of her amphibious fleet consisted of 9 MLC's—6 in the United Kingdom and 3 at Malta.

In 1936 the Director of the Royal Navy Staff College wrote a letter on the subject of combined operations to the Admiral President of the Naval War College pointing out the Royal Navy's dominant role in combined operations. He advised that the Royal Navy should take the initiative in the design and provision of landing craft and establishing an organization required for mounting overseas operations. There were many more suggestions in the letter including the recognition of a need for a 'Marine Striking Force' to "seize bases for the fleet and to act as a covering force for military landings."

Ironically, the letter found its way to the War Office which submitted proposals to the Chiefs of Staff, as a result of which it was agreed to set up a Sub-Committee of the Deputy Chiefs of Staff Committee to: (1) study inter-service exercises and present collated and agreed reports on the lessons learned; (2) to make recommendations for the study of problems of inter-service operations; (3) to make recommendations for the development of equipment for inter-service operations and (4) to keep under review the Manual of Combined Operations and draw up amendments when required.

The Committee immediately went to work and by May 1938 had recommended to the Chiefs of Staff that an Inter-service Training and Development Centre be established, with representatives of all services. This was approved by the Chiefs of Staff, and the Centre began work by the summer of 1938 to study the development of material, technique and tactics for all inter-service operations.

Concurrently what was going on in America and Britain towards the development of amphibious techniques, intelligence reports were coming in on the Sino-Japanese war. The Japanese had made amphibious landings at Tientsin and Shanghai and employed a 10,000-ton landing craft carrier which launched landing craft two at a time from the stern. This action by the Japanese was a great incentive to the British and of course to the Americans to get on with the job.

In the meantime, the Staff at the new Centre witnessed a practiced landing operation in the English Channel where soldiers landed in open boats using muffled oars. The Staff quickly concluded that there had been no progress in landing techniques since the Crimean war in 1854. As a result, the Staff got down to examining: (1) design of craft suitable for landing troops and tanks; (2) beach organization; (3)

headquarters ships; (4) landing tanks; (5) dropping of troops by parachute; and (6) use of amphibious tanks.

Two months before Britain entered the war in September 1939, a report by the Inter-Service Training and Development Centre concluded that with the material available, it was impossible to stage any landing operation on a hostile shore with a force of a brigade or more sooner than six months from the time that the order was given.

The British themselves concluded that in essence the combined operations capabilities were in the same state materially (men and boats) in 1939 as in the relatively small 1918 raid on Zeebrugge.

I believe the British were in a better state than in 1918. By the time Britain entered the war she had (1) a Combined Operations Manual; (2) Staff Planning and Development Centre; and (3) nine Motor Landing Craft. From this Britain did have the framework to expand and build the necessary amphibious craft. While Britain could not land an army in the face of opposition, she could and did successfully conduct raids against the enemy during the period after Dunkirk.

While many criticized the 'Raiding Period—1940-1942', it was important to harass the enemy and to disperse his forces. The fact is that the raids against occupied Norway did tie down large numbers of German troops. Hitler was convinced that the raids were a prelude to an invasion through Norway. As a result on D-Day, 6 June 1944, against the Normandy beaches, there were at the time over 300,000 German troops in Norway.

The period between the wars of American and British development in the art of amphibious warfare was frustrating, exciting and challenging. I agree with the British General J.F.C. Fuller that a successful amphibious operation was "the most far reaching tactical innovation of the war."

This paper is based on material contained in the following three studies:
(a) "An Analysis of British and American Amphibious (Combined) Operations, 1920-1945" (Forthcoming, 1974).
(b) "Progress and Purpose: A Developmental History of the U.S. Marine Corps, 1900-1970" (Forthcoming, December 1973).
(c) "The Evolution of Modern Amphibious Warfare", U.S. Marine Corps Educational Center, published 1959.

(Applause)

REYNOLDS: Thank you, Colonel. I should have noted that Colonel Clifford is taking his Ph.D. at the University of London and is now at St. John's in New York. We have mention of the Canadians and their

epic raid at Dieppe, and so I turn finally to Commander Alec Douglas, who, I have just learned, has joined our distinguished list of retired commanders at this conference. He has retired from the Canadian Forces in order to take over the Directorate of History, the distinguished office held by C. P. Stacey and Syd Wise before him. And so that's a promotion—to a civilian billet. Without further adieu, Commander Douglas will speak on "The Canadian Experience."

The Canadian Experience

W. A. B. Douglas

'A multi-ocean nation with a one-ocean posture'

NEW HELMSMAN LOOKS AT NAVY'S ROLE

> . . . Pointing to his green uniform, he said, 'I think the greatest spinoff is that nobody can doubt that I am a defender of Canada and I will not support any of those nineteenth-century British or American hang ups.' Toronto *Globe and Mail*, 9 July, 1973.

Peter Karsten's recent book, *The Naval Aristocracy*, relates the growth of navalism in the United States to the adoption of attitudes, customs and beliefs prevalent in the Royal Navy in the age of imperial expansion. The "Anglo-American" naval traditions which were then brought into being really consisted of two main components: the common eighteenth century background of both navies and the teachings of Alfred Thayer Mahan. Both navies have worshipped at the same altar of sea power, according to the doctrine formulated before the first World War. In the twentieth century, however, each navy has gone its own way—even when fighting for the same cause in three wars. There has been no naval Eisenhower. Moreover, the Royal Navy adopted Mahan as a sage more than as an American brother, Peter Karsten notwithstanding. No British naval thinker revered John Paul Jones as Mahan revered Nelson. It may be argued, then, that so-called Anglo-American naval traditions are a phenomenon of the eighteenth and nineteenth centuries, although they have had repercussions on the naval concepts and philosophies of the twentieth century. One can go further and suggest that what an American calls Anglo-American tradition may well be, in British eyes, nothing more than British naval tradition.[1] The question now to be asked is, what form does that tradition take in Canadian eyes. Is the erstwhile Royal Canadian Navy, now known as the Maritime Command of the Canadian Armed Forces, just a chip off the old Anglo-American block?

Strictly speaking, there has been no legacy of Anglo-American traditions from which Canadian naval traditions might have been developed. The attitudes and perceptions of some Canadians may

well have been influenced by the Anglo-American experience, but tracing such developments is outside the province of this discussion.[2] The fact is, as Professor Gerald Graham once observed,[3] Canadian naval history did not really begin to be made until the middle of the twentieth century. Thus the Canadian naval exxperience is a very recent historical phenomenon.

The second point to note is that for the largest proportion of its existence the R.C.N. remained within the orbit of the Royal Navy. The converse is true: it stayed outside the orbit of the United States Navy. That is not to say North American considerations have not always played a large part in the evolution of the Canadian Naval Service—they have. Doctrine, material and operations however have been based far more on British Admiralty than U.S. Naval Department requirements.

One explanation of this simple truth is to be found in the origins of the Naval Service Act of 1910, the legislation which brought the R.C.N. into existence. Political considerations, domestic as well as international, influenced both the Canadian and British parliaments far more than did strategic necessity. In the controversy over the Naval Aid Bill in 1911 Stephen Leacock summed up the critics' view by referring to the future R.C.N. as a pop-gun navy in Lake Nipissing. Once formed, the Canadian navy was not very much more impressive than the critics had prophesied. On the other hand, it would have been surprising for a new service not to have suffered intense growing pains.

The man who was first charged with creating a naval service is of prime interest in this discussion. He was Rear Admiral Charles Edward Kingsmill, born in Guelph, Ontario and with a respectable career in the R.N. behind him. He played a principal part in formulating Canadian naval traditions, and with one exception his first model was the Royal Navy. The exception was in the training of Engineer Officers, which in 1910 was undergoing change. The R.N.'s new idea (a result of the Fisher reforms) of training all cadets together was viewed with disfavour by Kingsmill. Whether he had an inborn prejudice against the engineering branch or was on the other hand convinced that the system was not suited to Canada cannot be proven one way or the other. What he did say was: "The plan was tried in the United States Navy, and [was] not a complete success." Eventually Canadian naval engineers followed the British Training pattern.

The first World War transformed the Naval Service of Canada. Even though the R.C.N.'s largest contribution lay in recruiting for the

Royal Navy and Royal Naval Air Service, it did provide the inshore naval forces required to patrol Canada's own coasts. It also found itself propelled willy-nilly into the latest form of naval warfare by the creation of the Royal Canadian Naval Air Service in 1918. This was a short-lived and rather anomalous organization (the R.N.A.S. having just been superseded by the R.A.F.), but it was potentially of the first importance in Anti-Submarine Warfare. There were plenty of highly qualified Canadian airmen to man the R.C.N.A.S., but the R.A.F. had prior rights to their services—mainly over the North Sea. Geography therefore exerted its influence, and all the combat fliers for the R.C.N.A.S. were lent by the United States Navy. Among their number was Lt. Cdr. R. E. Byrd, the future polar explorer, whose interest at that time was in a transatlantic flight. The fortunes of war had thus brought about a fleeting contact between the R.C.N. and the U.S.N.—but it was a brief touch and could hardly have taken the Canadian naval service out of the British orbit.

Between the wars, as was the case before and during the first World War, virtually all R.C.N. training was done with the R.N. or given by men who were products of R.N. schools. Because of retrenchment, Canadian naval officers continued to carry out nearly all their seatime in British ships. It was inevitable that some anglicisation would take place. Canadian national pride remained, however. Canadian traditions also became established in a subtle manner. It was to be seen in the rivalry between R.C.N. and R.N. ships when they met the West Indies squadron in the spring manoeuvres. It was to be seen in the fierce competition between the Canadian East Coast and West Coast ships, which extended even to the bars of Kingston, Jamaica in the thirties.[4] It was to be seen in the creditable performance of a Canadian destroyer captain in an unusual diplomatic incident in Central America. At El Salvador in 1932 Commander Victor Brodeur

> In what had come to be the tradition of Canadian diplomacy, . . . took the opportunity to secure the protection of British lives and also British property by personal direct negotiation without resort to, or threat of, force.[5]

There was little opportunity for American naval influence to be exerted upon the R.C.N. in this period. The result was that during the second World War senior Canadian naval officers sprang out of a tradition formed by the Royal Naval College of Canada and the Royal Navy. Officers of the next generation were deprived of a Canadian naval college when postwar retrenchment resulted in its closure in 1922. The experience of Canadian naval officers was then even more

closely linked to the Royal Navy itself. On the other hand the first generation of Canadian officers and the growing number of Canadian ships in the thirties provided considerable Canadian content in the naval education of R.C.N. officers. Relations with the R.N. in the second World War were informal to the point of being subordinate—Canadian ships even in Canadian waters were almost, sometimes completely, under Admiralty control. The chain of command tende to be "the old boy net." By contrast, relations with the U.S.N. were "correct" and at a high level of command. Even in Newfoundland, where Commodore Murray in St. John's was under the operational command of Rear Admirals Bristol and Brainard in Argentia, the contact between R.C.N. and U.S.N. was of the smallest degree.[6]

Wartime expansion and particularly traumatic postwar retrenchment again transformed the R.C.N., this time nearly beyond recognition. After the war it was the aim of Canadian naval professionals to emulate the exacting standards of discipline and seamanship that flourished in the prewar R.C.N. The vacillating policy caused by the rapid end of hostilities in the Pacific undermined these efforts, leaving the service with a temporary population of men awaiting discharge. Morale suffered; there were "incidents" and inquiries. The outcome of these events was the *Mainguy Report*, published in October 1949. This polished document, a model of clear thinking, resulted eventually in the dilution of R.N. traditions. The comparison between the American and Canadian navies was inevitable, and it revealed some interesting divergencies:

> COMPARISONS BETWEEN AMERICAN AND CANADIAN NAVIES
>
> 21. There is a tendency to compare the Canadian Navy adversely with the American Navy. Equipment, routine, accommodation, and above all recreational facilities are believed by most Canadian sailors to be much superior in the Navy of the United States. This comparison is in many instances justified, but it might be observed that if the strictness of American discipline and the severity of American punishments were prevalent in the Canadian Navy, some of the witnesses who appeared before us would now be spending their time in confinement and would not have been afforded the opportunity of a free and easy discussion with the Admiral who was our Chairman, and with those of us who attempted to assist him in his deliberations.

The Korean War and the NATO agreement resulted in the further transformation of the R.C.N. Expansion again took place, and in the

new navy that developed, much closer ties were established with the U.S.N. In part, this was inevitable for geographic and strategic reasons. For the first time one of Canada's primary peacetime military roles was defence of the North American continent in conjunction with the forces of the United States. NATO standardization, both in doctrine and equipment, brought close ties between all NATO navies; certain perceptions that North Americans share gave additional strength to Canadian/U.S. ties. Americanization of the R.C.N., especially in the eyes of those who deplored the trend, seemed to be imminent. On the other hand, in spite of increasing superficial similarities, some things remained different. Training and doctrine continued to be based on the British model in certain vital areas. It is the Admiralty manuals of seamanship and navigation from which Canadian seamen are still instructed; it is British common law and the Queen's Regulations on which Canadian discipline is based. Captains of Canadian ships only enter their officers' wardrooms when invited. Only in exceptional circumstances will Canadian gangway staffs wear side-arms. In 1963 wmen unsettled conditions in Haiti threatened the safety of Canadian nationals, HMCS *Saskatchewan* prepared to land three platoons in their dress whites. U.S.N. landing ships, combat-loaded, had already been in the area 24 days.[7] The Canadian ship had acted more in accordance with British than American practices, and the difference did not lie solely in the amount of naval force available.

In summary, the Canadian experience suggests that "Anglo-American naval traditions" have not made much impact on the development of Canadian naval ideas in the twentieth century. What has made considerable impression is the pronounced difference between some British and American concepts. The tradition of more significance to the Canadian and U.S. navies is perhaps the North American maritime tradition.[8]

It is of interest that in the generation after Kingsmill went to the Royal Navy another Ontario boy found his way to Annapolis and the U.S. Navy. This was none other than William S. Sims, who began life in Port Hope. In 1920, Sir Charles Kingsmill stepped down, and turned over the reins to Walter Hose, who had found his way to Canada by way of the R.N. and the Newfoundland Fishermen's Reserve. Supposing that by some extraordinary combination of circumstances Rear Admiral Sims, U.S.N., had returned to the land of his birth to command the fledgling Canadian navy, then there would have been an Anglo-American naval tradition in Canada to reckon with. The unlikelihood of the event places the concept of an Anglo-

American tradition firmly in the dreams of empire that have never materialized. On the other hand, it is possible to postulate the existence of Anglo-Canadian naval traditions. From this point we might proceed to the question, is there, or has there ever been, a Canadian "naval aristocracy"? The answer could arouse as much reaction in Canada as Karsten's questions have raised in the United States. *(Applause).*

Notes

[1] See, for instance, the article on Sea-Power in the 11th edition of the *Encyclopedia Britannica* by Sir Cyprian Bridge, especially the following extract: "There must have been something . . . beyond the meritorious qualities of the principal British officers which helped the navy so consistently to victory . . . . There must have been bad as well as good officers among the hundreds of the lists; and we cannot suppose that Providence had so arranged it that in every action in which a British officer of inferior ability commanded, a still more inferior Franch commander was opposed to him. The explanation of the nearly unbroken access is, that the British was a thoroughly sea-going navy, and became more and more so every month. . . . The war had been for the British, in the words of Theodore Roosevelt, 'a continuous course of victory won mainly by seamanship'. . . ."

[2] See for instance, Carl Berger, *The Sense of Power: Studies in the Ideas of Canadian Imperialism, 1867-1914* (Toronto, 1970).

[3] In a private letter to the author.

[4] Transcript of interview in May 1970 with Rear Admiral L. W. Murray, RCN (Ret) held in Directorate of History, National Defence Headquarters, Ottawa.

[5] R. A. Preston "The R.C.N. and Gunboat Diplomacy in the Caribbean," *Military Affairs*, XXXVI, No. 2 (April 1972), 41-44.

[6] Murray interview; C. P. Stacey, *Arms, Men and Governments: The War Policies of Canada, 1939-45* (Ottawa, 1971), 313-4; W. G. Lund, "Command Relationships in the North West Atlantic 1939-45: The Royal Canadian Navy's Perspective", (Unpublished M.A. thesis, Queen's University, Kingston, 1972), 31-51.

[7] R. A. Preston, "The R.C.N. and Gunboat Diplomacy . . ."

[8] The former Captain of H.M.C.S. *Labrador*, for instance, sailed as an adviser in the cruise of the *Manhattan*. On the other hand, the following table of shipbuilding figures illuminates the relations between Canadian naval development and British or American influence since 1910.

		Building Yards	
Ship Type	Canadian	United Kingdom	U.S.A.
Aircraft Carrier	0	3 (Light Fleet)	2 (Escort)
Cruiser	0	5	0
Destroyer type	31	27	8 (Lend Lease)
Escort type	155	23	0

Auxiliary	9	5	2
Submarine	0	3 (*Oberon* class)	6 (including 4 pre-1918 boats)
Minesweeper/ Minelayer	99	1	2
Minor vessels	315	34	29
TOTAL	609	101	49

Source: Directorate of History, National Defence Headquarters, Ottawa.

Workshop: Maritime Preservation

Benjamin W. Labaree, Moderator

LABAREE: This is the session on 'Maritime Preservation.' I'm Benjamin Labaree of Williams College and summertime Mystic Seaport in Connecticut. And our general topic, it seems to me, is particularly appropriate, and its significance has on several occasions been emphasized by previous speakers and previous panelists, and that is that if we are in fact going to be concerned with problems of the sea, their strategic significances both from a military standpoint and from a resource standpoint, we must after all first come to understand how men and women, how mankind has indeed come to look at the sea, over the course of time. Perhaps the most graphic example of this was in the session earlier this afternoon when from the fisheries standoint Mr. Goggins pointed out that he and his compatriots here in Maine have spent many hours, many months working on the problem of fishery resources, only to come up against a seemingly unconquerable obstacle, the attitude of the fishermen.

We stand here this afternoon, it seems to me as archivists, as historians whose task it is to understand what these attitudes are, whether they be attitudes of previous naval strategists or fishermen along the coast of Maine, because after all we cannot do anything with the sea until we can understand what these human attitudes are. It's the historian and the archivist who is the keeper of those historical records, the records of what man's attitude has been toward the sea. These records appear in a number of different forms, and each of our speakers this afternoon will be addressing himself to one of these several forms. There is the oral history tradition, the tales, the folklore, the oral traditions that have come down. There are the manuscripts in the traditional sense, the historical manuscripts which are preserved in various archives. There are also the archeological remains. These are but three of the major sources in which historians must work if they are to expand our understanding of man's relationship to the sea.

Our first speaker this afternoon in this session is Mr. Edward 'Sandy' Ives who is director of the Northeast Archives of Folklore and Oral History here at Orono and who will speak on "Elitism and Mythology: Old Songs Resung." Professor Ives.

Elitism and Mythology: Old Songs Resung

Edward D. Ives

Louis Untermeyer, that anthologist, spoke of Gilbert K. Chesterton one time as defending the obvious with the zeal of a fanatic being crucified for heresy. If that is my situation this afternoon I will only say I have brought my own wood and my own nails. Hell, bang away, that's really about it. *(Laughter)* A lot of what I'm going to say will have to be analogized because I haven't done much work with maritime history in any form, but we have done some. I'd like to begin though with a parallel here. I say elitism. Recently I attended a cocktail party in Austin, Texas, on the top floor of the LBJ Library there. An entire library essentially devoted to the career of one man! We have the tremendous JFK Library that sometime just might possibly go up in Cambridge, who knows?

When I and some of my students started to work on the history of lumbering here in Maine, doing oral historical research in this way, we got interested in the Penobscot boom up above Old Town here where logs were stored and sorted, and rafted, sent downstream. It turns out that for an operation that lasted for something like a hundred years, there was not a single shred (that's not really an exaggeration at all); there was not a single shred of material to tell us what life had been like for the men who worked there. Nothing at all. And hence was something that involved thousands of men, as I say over probably a hundred years, just nothing there whatsoever. We have been doing what we can to correct that: we've been going up, talking to men who worked on the boom, who remember what it was like, who were kids and played on the boom amongst the logs and got in the way—that sort of thing.

But before this just nobody was interested enough to make a record of how men lived and worked there, and I think that it points up the emphasis of our history. It has been essentially elitist, and so conceded I think both by historians and by laymen: the study of significant men and significant events. When we study music history, for instance, we study the history of elitist music: we study Bach, Beethoven and Brahms right straight through. We study probably five percent of even Western musical experience. But that makes up the study of Western music? The study of literary history is the study

again of elitist literature, essentially. Ninety percent of the world's aesthetic theory is based on the study of probably two percent of the world's narrative and poetic experience. Now I don't question the value of the elitist approach. I'm even willing to grant for the sake of argument, or to avoid argument perhaps, that it's more important than anything else—that that's what we really should be doing. But the lives of—and you have to pick your own figure here—say ninety percent of the people are part of history, and it seems to me that we should be devoting a lot of attention to trying to find out just what life was like by talking to the people who lived it.

Now I have a feeling that maritime history is much better off here than a good many other things. There's always been this quality of romance about the sea, and the life of the common seamen somehow probably has been better recorded than say the life of the common lumberman. I'm sure of that. But still we have several problems here. First of all, most of these people have been inarticulate. Probably only within the last couple of centuries at the very most have they learned to read at all, even to write. And second, I think little systematic attempt has been made to gather material on this particular level—I say systematic attempt. Occasional diaries, letters, but compare it with say the tremendous effort of people like Forrest Pogue and the George Marshall Foundation for instance, a tremendous thing just to develop the life of one man really.

Now, folklore with its historical emphasis on the folk might have been expected to fill this particular gap. The trouble is that most folklorists were interested in songs or a particular song, let's say, and they would trace out a particular ballad and its history, or they would take a folktale and do a migratory study of that particular tale and you all but completely divorce it from the life of the people who told that particular story. There's been a tremendous amount of correction going on here. But the emphasis was not so much on the life. In European folklife studies this was certainly more true. You have a good many folk museums: this sort of approach was much more common in the Scandinavian countries than it has been here. We're getting it now, I will say.

But somewhere along the line after the Second World War came the tape recorder and with it the whole idea of oral history. Not that there wasn't oral history before this; perhaps Herodotus was the first oral historian, I don't know. But at any rate with the tape recorder we had a special gimmick, and based on that particular gimmick we have a whole field started. Generally, I would say that it followed the elitist

historical emphasis, and you find that the Columbia University Oral History Project, this is what they were in to—the lives of significant men, not the lives so much, but the reminiscenses of significant men or men who had a significant part in the life of our time. You can find hours of tape there from Governor Lehman, let us say—rest him —and others. I remember talking to someone at an oral history meeting out in California, telling about a history of lumbering he was working on. "I don't want you people here to think that we're only interested in the big guys, in the national figures—we're interested in the little guy too," he said, and I perked up. "For instance," he continued, "we've got interviews with the man who was the superintendent of the Yosemite National Park." And I thought to myself, well, well, well, that's like saying, we're not interested in just the big guys like the governors; we're also interested in the mayors, that sort of thing. *(Laughter)* Well, it still seems to me though that oral history—the use of the tape recorder in this way—gives us the best technique available for reaching out into the great silences and making them articulate. I can't think of any better way to do it. We are trying to work in this way here.

We have for instance, as far as maritime history is concerned, probably about a hundred hours or more of interviews with lobstermen and fishermen along the coast, in many of these done by Dave Littleton-Taylor sitting right here with us. Talking to them about what it was like, some of these going on for six, eight, ten hours worth of interviews with one man, pictures, drawings that they'd made for use of how this was done, how that was done. One of the speakers here today, Jack Kelly, turned into us a series of tapes sometime ago of his talking to his father who had been a fisherman, both from Newfoundland vessels and from Massachusetts vessels; he was able to compare the two in this particular way. Now we are working hard, not only to get these interviews but to transcribe them, get them completely transcribed, because if you don't do that, forget it. Tapes that aren't transcribed aren't going to be much use to anybody in the study of history.

I have a few suggestions, but I think I can narrow them down. I was thinking in military history for instance—and here I'm speaking quite in ignorance, I must say—but how much has been done with recording the feelings and the views of the war as seen by the privates, as to how they saw what was going on, how they felt it. I remember a story—I was in the Marines for a while, came up through the ranks; as a matter of fact I think you should know that during the Second World

War I rose to Private First Class *(Laughter)*, and I remember a fellow telling me about, well he was in the Tenaru River area of Guadalcanal and he saw a Jap come out to the water, look around like this, suddenly see that nobody was around, sit down, take off his shoes, put his feet in the water, wiggle his toes and just go (sigh) like that. And he said, "I couldn't shoot him!" Which sort of takes me back to something that a poet friend of mine naively said one time, that wars would stop when people refused to shoot each other. And I guess that's the sort of naiveté we have to come back to from time to time. But I wonder, I think more of this kind of thing, talking to the rankers, let's say in this case. As I say, I don't know how much has been done; I may be speaking in ignorance, I may be speaking about something that's already being done.

I'd like to suggest one way that it might be useful for the study of the bicentennial. Obviously, we're not going to talk to anybody who fought in any of the battles. We can try, but it won't do us much good. We can take two views of history, the idea of history as static, that is that something happened and that's it, and our job as historians is to find out what happened. Get back there and find out what the "truth" is and dispel all these "myths". The other approach is to see history as dynamic, that is, the past is continually present in men's minds, constantly there. And if we looked at it from this particular point of view, how have men viewed the past, how have many men viewed the past, how does the so-called common man view the past? It seems to me that oral history is a perfect technique for studying this. Finding out from people, talking to them about, what was the Revolution, what happened, tell us the story of it, what do you know about it? I make a prediction here; if we do this, we will discover a beautiful, mythic structure. That is, it will come out to something in mythform. We talk about a lack, then a task, a task accomplished and that lack liquidated. There was no "freedom"; these men (the "founding fathers") set themselves the task of gaining it. They succeeded, and therefore freedom was established. Simple as that. I think we would find it fits a mythic structure beautifully.

What's to be gained from such an approach? Well, ethnocentrism is nothing new to any of us I'm sure, but one's own ethnocentrism is *not* ethnocentrism. It's the truth, the way things are. Really. One's own mythology is not mythology at all. It's history. How it really happened. We have been "liberated" from the chains of "lying myths", and ain't we enlightened! Through exploring the past, as it exists in the present in men's minds—or so runs my hypothesis—we will

discover that our history is our myth, and that conversely our myth is our history. That that is as true for us as it ever is or was for any so-called "primitive" group. The wisdom that may come from understanding that in this sense as in so many others, we are one with the Trobriander, the Chippewa, the Ainu, may help to give us another chance to join the human race and we might just survive the shock. *(Applause)*

LABAREE: That's bringing history back to the people. We next have Mr. Charles Armour who's archivist at Dalhousie University in Halifax, who will speak about a new collection of archives that are being put together there and their use and future promise to historians. Mr. Armour.

Shipping Archives in the Maritimes

Charles Armour

Thank you very much. I want to speak very briefly on the shipping archives we set up three years ago at Dalhousie University. As probably most of you know, in Canada during the 1840's to the 70's, shipbuilding was the major industry, or at least one of the major industries, and during the peak period, Canada supplied approximately a third of all British shipping. These were built in Quebec and in the Maritime Provinces. The Canadians unfortunately have been very lax in appreciating this. Very little has been done in the study of maritime shipping, and they haven't even bothered to save the records of any of the companies. For years we sat idly by while truckload after truckload of very valuable documents were deposited, not in a museum or archives, but in a local dump. Probably well over ninety or ninety-five percent is simply gone forever. In an attempt to remedy the situation, in 1969 a Business Archives Council was set up and various universities were selected as a sort of official repositories for business records. This was purely an advisory board and in fact has been now taken over by the Public Archives of Canada. But it was a start in the right direction. Dalhousie University was designated a repository for Nova Scotia and a year later the University Archives was set up. Up to this time, in Nova Scotia anyway, no serious attempts had ever been made to try to systematically collect material and information. Halifax in particular has seen extensive redevelopment over the last ten years and of course as the old buildings come down, the records go with them. Certainly the largest repository of material in Halifax is the dump; there's no question about it.

The Canadian shipping registers themselves are fairly complete after 1817. Before that period from the establishment of the registry system in 1787, there are a lot of gaps; Halifax and Shelburne and St. John, New Brunswick are almost completely missing. And of course the records of the shipbuilders and companies have gone as well. Since nearly all 18th, 19th and early 20th century businesses are either directly or indirectly connected with shipping, a business archives today is essentially a shipping archives as well, and so while we are theoretically a business archives probably eighty to ninety percent of this is shipping material.

We started with a vengeance three years ago. We have acquired approximately a thousand feet of manuscript material in that period of time; the material comes in as fast as you go out and get it. While one can tell endless stories about what has been destroyed, there is still a lot around. The Nova Scotians and all the Maritimers are great packrats, and if you can get to the buildings before the demolition squads then you are fortunate; most people are fairly co-operative.

Being an archivist has it's problems. If you tell someone you're an archivist they don't really know what to make of you. *(Laughter)* They think you're a librarian; they think you are a historian. I'm actually a chemist; I upset all of them. *(Laughter)* Some people actually ask you how to spell it, and a few people think you're an archeologist. For anyone who's done any work in this field, as you know it's a very rewarding business when you finally track down where it is, get a big truckload of stuff, and you've finally got it into the building. It's also very frustrating when you arrive, as we did in one case, two days after the stuff had been sent to the town dump. And of course you meet some very interesting people; you also meet some very boring people, and you have to sit through several hours of monologues on family gossip. This is really one time when you should have a tape recorder, although occasionally if you get a tape recorder then they shut up. *(Laughter)* But it's important that we get this material now; extensive re-development is being done all over the country, and really time is running out. If it's not acquired in the next five or ten years, most of the 19th century stuff will be gone. The material we have is mainly in 19th and 20th century; the earliest we have is around 1840. We do have some 18th century material, but it's fairly small. We have extensive holdings of about twelve companies, and by extensive holdings I mean fifty to a hundred feet.

I'd just like to mention a few of these: these are all Nova Scotia names which you may not know, but will give you some idea of the scope of the material. The earliest material we have is a company from Maitland, Frieze and Roy. This is a case of a shipbuilder, Mr. Frieze, who started in 1839. He's a speculator; he's shipping large quantities of timber to the States. But he's also dabbling in local politics. You cannot isolate a business from the community. He is running a church, the school and the temperance union. He's receiving all the temperance pamphlets; he's also importing vast quantities of alcoholic beverages from Halifax. *(Laughter)* The temperance union minute book which we found is just a scream as far as I'm concerned. They seem to spend most of their time squealing on one

another. He was later joined by Roy who built a number of vessels for Halifax firms, and we did uncover one spar plan which was buried up in the attic.

Another major company was Colin Campbell in Weymouth. This gentleman was a shipbuilder and lumber merchant. What is particularly interesting here are very detailed cost accounts of ships being built. He built about six or eight. They include all the wages and prices of everything right down to the last pound, shilling and pence, or dollars and cents as it became later. They give a very good account of the cost of living. He's also running a local store, of course, and he owns most of the community and most of the people who live in it, since they work for him. His letter books are a typical case of a Victorian tyrant; he's raging on and on against the captains who are obviously losing money; they are thieves, villains and crooks, and he's praising sky high the ones who are making money for him. It's quite obvious who's in his favor and who isn't. On his death in '81, the company still owned the lumber business and was a major lumber exporting firm in the Weymouth-Digby-Annapolis area up until the 1930s.

A very old Nova Scotia company is Zwicker and Company of Lunenburg. They actually started business in 1789. Some of the early records are in the Public Archives of Nova Scotia. The material we have starts around 1890 and goes right up to the present. They have actually stopped operations, and we got there in time. They were a major fishing company who went into the dried fish business and were exporting to the United States and the West Indies. This company owned the *Bluenose*. It was a small holding company within the major company, and of course what turned up in the records were the complete financial records of the *Bluenose*, plus all the ship's papers of fifty to seventy-five other vessels which the company owned. So it could make an excellent study in the fishing industry and in the transition from sail to auxiliary, to motor vessel to trawler since they were involved in all of them. Actually Lunenberg has been a very good place to go: Lunenberg hasn't really changed for about a hundred years. Most of the buildings are there and most of the people *(Laughter)* and they're really marvelous. They're a bit distrustful; you have to talk about two hours—it takes about an hour to get them going and then about three hours to get them stopped. But this is an occupational hazard, and of course if you've got the time, which you have to, then it's usually quite profitable, and as you're going out the door, then they start dragging their stuff out. We did uncover about

twenty sail plans of schooners from a sail maker's loft. Some of these we were given and the others we've traced. We also got records of other, smaller companies, again in the fishing and ship chandlery business, not as large as Zwicker's, but in the same business.

In Yarmouth unfortunately most of the business area had been completely demolished and of the Killam and the Baker material —these were two very wealthy and powerful merchants—almost nothing has survived. The only company we managed to get anything from was Parker Eakins; they started in 1874, but they had extensive trade with the West Indies, and there's a lot of West Indian material—statements of prices and trade reports for each week, which the West Indian companies put out.

Another tycoon, a Victorian tycoon who lived at Upper Stewiacke, near Truro, was Mr. James Dickey; he's a typical local merchant who's dabbling in everything, including shipping. His brother was actually managing owner of a number of vessels. Again there's a lot of correspondence with the prospective builder and correspondence with his brother, who's giving him a running commentary on all the trials and tribulations of shipowning. The son, Alfred, later at the turn of the century went into a very, very extensive lumber business but went bankrupt in 1911, I think it was, to the tune of several million dollars. It was supposed to be one of the largest single land transactions at that time. Again, you have an enormous amount of not just shipping material, exports and shipbuilding and ship owning, but local history as well. There are very indignant letters to Mr. Dickey, because he's threatening to sue these people for non-payment of debts, and of course their pride has been injured. These also, of course, give a very good idea of the relationship between the local storekeeper—only he's a big businessman really—and the unlimited credit that was given to some of these people.

We managed to obtain some material from William Stairs, Son & Morrow, the oldest Halifax company. They are a hardware business; they were operating their own shipping line. We have other small holdings of businesses, private individuals and sea captains. And we are expanding, or hopefully expanding in this direction all the time. As an auxiliary part of this, from the Public Archives in Ottawa we have just recently purchased microfilm copies of all the Nova Scotia shipping registries.

There are a lot of gaps in the 18th century. There were a number of gaps in the Canadian records, but due to the British policy of sending plantation copies to London, in fact as in many cases the London

copies are more complete than the Canadian ones; these were microfilmed about four years ago in London and it filled in a lot of gaps. Unfortunately the custom House burnt down in 1813 in London, so if the Canadian copy is missing, the London copy is missing as well. There is however still material in the Public Record Office. One of the most interesting, for anyone who's studying West Indian and 18th century Canadian history, are the naval office returns in the Colonial Office Papers. For Jamacia and Barbados and a number of other ports, these are almost complete. They give not only the vessels' names and their cargoes, imports and exports, but at that period they give a very detailed analysis of the vessel. It gives you the name of the vessel, the owners, where it was built and where it was registered. So it's possible to fill in many of the gaps of the early Canadian registers.

The War of 1812 and the vast area of privateering is another field which has been studied. To my mind it's very interesting when Canadian and American ships changed hands almost every other month—a number of vessels that I've come across were captured and recaptured about five or six times. During the American War of Independence the vice-admiralty court records, which are in Ottawa, contain long letters of apology from the Canadian agents, apologizing for the fact that these vessels had been captured again. And there's a lot of very funny and amusing instances in this as well. The naval office returns in London are all on microfilm, and we hope to purchase these. We also expect to eventually purchase all the Canadian shipping registers on microfilm. These can be borrowed, of course, on inter-library loan, but for someone doing extensive work, it's very time consuming and with microfilm at a fairly reasonable price today, it's far simpler to have your own copy.

We've just started a project now of putting all the ships' names and details on computer cards. We will do one port at a time, and then it can be printed out: the number of vessels built, and eventually—once it's finished—statistics can be compiled, to give really some idea of how many vessels were built. I have not really seen any reliable figures. The Canadian figures after confederation I assume are reliable, but I've never checked them out. The ones before that I suspect are not that reliable, and no one really has any idea of the total number of vessels that were constructed in the Maritime Provinces. We are trying also to obtain photographs of ships' paintings in private hands. There are still a lot of families around who have paintings of known vessels. I've been doing this with a friend of mine this summer. This is

actually a private project, but we've been photographing paintings. we also want to locate half-models which are known where the building and the name of the vessel are known—and take off the lines. This is a fairly simple operation, but very time consuming. Then one can start to build up files of spar plans and line drawings, and hopefully someday someone can do a "Chapelle" study on Canadian naval architecture. There is a lot of material of course in this country as well which was acquired during the '30's and '40's particularly and is now deposited here.

We're trying to build up a business archives, which of course is related to shipping, to get photographs, plans and information on vessels, and locate the names of builders. Unfortunately from 1855 to the early '70's the name of the builder is not given in the shipping register. Sometimes it's possible to guess, or you know who this is; in many cases this is not possible at all. Newspapers sometimes report launchings, but usually they don't. We must build up this material so that hopefully one day a detailed study can be made on Canadian shipping and we can get some indication as to the extent of this industry. Thank you.

(Applause)

LABAREE: I think Mr. Armour's comments about the experiences of gathering and collecting the archival material add a new dimension to what Mr. Ives was saying. Perhaps Mr. Ives could accompany Mr. Armour next time with his ever-present tape recorder. Three hours is often the minimum length of time it takes to get some prized item from its possessor, and in the process certainly good stories and additional information are often a part of it in the transaction.

We now have General E. H. Simmons, who is Director of the Marine Corps History and Museums program in Washington who will speak of the Marine Corps historical branch as an example of what kind of work in this area a military service can be doing. General Simmons.

The Government Military Museum

Brigadier General E. H. Simmons, USMC (Ret.)

I will start by offering two caveats. First, we are similar but not identical in our mission and organization to historical activities of the Army and Navy and Air Force, and I say this because I wouldn't want you to judge or misjudge these other activities by what we're doing. And for those of you who are familiar with these other service programs, I will generalize by saying that our program is most like the Army's, least like the Air Force's and quite different from the Navy's. *(Laughter)* Incidentally, the Army's venerable and respected Office of the Chief Military History (OCMH, as most of us know it) has now been redesignated The Center of Military History. I consider this to be the height of arrogance and ethnocentricity *(Laughter)*—Center *for* Military History might have been acceptable, but to assert that they are the Center *of* military history, that's a bit much.

My second caveat is that the Marine Corps historical program deals with Marine Corps history, not military history per se. Now this may sound a bit precocious, particularly since the Army has placed itself at the center of the universe with respect to military history, but I hope that the distinction between Marine Corps history and military history becomes clear as I go on with my remarks.

First, as to mission, why do we exist? Why is there a Marine Corps historical program? What is our purpose? Now I could read you a high flown mission statement, but I'd rather express it in simpler terms. Whatever our historical program is, whatever it does, must be relevant to today's Marine Corps. We cannot retreat into a cocoon of nostalgia. We cannot concern ourselves with just what the Marine Corps is today.

I have a habit when talking about mission and purpose of drawing a target, an ordinary old rifle-range target, or the type perhaps PFC Ives might remember. The center, the bull's eye, is the Marine Corps itself, and that's what we're shooting at. Now the next ring out is the rest of the U.S. government, with particular reference to the U.S. Navy and the Department of Defense. The next ring out is the academic community, and this is a very important part of our target, but we don't exist simply to be a feeding ground for the outside

scholar. And the outer ring on my target is the general public: much of what we do does reach the general public. We think this is useful and in both the national and Marine Corps interest, but I must emphasize that we are not a public relations activity. There we have it then: the Marine Corps historical program target. First the Marine Corps, next the U.S. government, the academic community, and then the general public. We score if our product hits any part of the target, but at the center, and I repeat, is the Marine Corps.

The authorized strength of my division is ten officers, thirteen enlisted and twenty-nine civilians, a total of fifty-two persons. About half this number is professional staff, the remainder are clerical or technical. Thus our historical division is roughly comparable in size to a history department of a middle-size college or university, and because job opportunities are always discussed at meetings like this, I might say that there are three job opportunities right now on our professional staff, GS-9's. We find it particularly useful to have a mix of Marine Corps officers and civilian historians on our staff. The civilians give continuity and experience in methodology and technique. The Marine Corps officers give immediacy and reality to the program. In passing I might say that the academic credentials of the military officers are quite comparable to the civilian members of our staff.

The division has two branches roughly equal in size, the historical branch and the museum branch. And these names pretty well indicate their function. The historical branch deals largely with the written word and the museum branch deals primarily with things, artifacts and pictorial art, if you will. The boundaries between these two branches however are not hard and fast; there is a great deal of interaction, and this is a process that we are seeking to heighten.

The Marine Corps Museum is at Quantico, Virginia, but we must think in terms of a Marine Corps-wide museum system rather than just the Marine Corps Museum at Quantico. To achieve better functional integration, we have moved the museum system administration to Washington; the offices of the museum branch are now in the Washington Navy Yard. The new deputy director for Marine Corps museums is Colonel Brooke Nihart who came back on active duty for this purpose. Some of you probably know Brooke through his long and prominent role in the Company of Military Historians and in recent years his affiliation as senior editor of the *Armed Forces Journal*. The museum in Quantico, and I know also that some of you have visited it, was largely the work of the late Colonel John Ma-

gruder. It is a fine small military museum, and I think its excellence is a lasting memorial to John Magruder. But last year we had only 25,000 visitors to the museum. This year we will possibly have thirty or thirty-five thousand. These are not large numbers. Quantico is not easy to get to, not even for Marines. *(Laughter)*

Today's Marine Corps numbers 190,000 men; only a small fraction of them will ever visit or be stationed at Quantico. Thus, if we are to hit the bull's eye, we must take the products of the museum branch out to the Corps, and this means emphasis on satellite museums at major posts and stations and many more mobile exhibits and displays. We are working in that direction. Our Marine Corps combat art which forms part of the museum program totals some five thousand pieces. It is already being very actively exhibited and displayed. And incidentally, one of our most interesting exhibits is a collection of 101 Viet Nam and Korean War photographs by David Douglas Duncan. Before going with *Life* Magazine Duncan was a combat photographer in the Marine Corps in World War II, and I had the privilege of working with him a bit in North China. This collection which he has given us has hung in the French Photo Salon in Paris and in the Whitney Museum of American Art in New York. Perhaps you might be interested in this for your own activity or one of our other art exhibits; if so, get in touch with me.

Now let's leave the museum branch and its functions for a moment and talk now about the historical branch. The deputy director for Marine Corps history is Colonel Herb Hart, and those of you with an interest in Western history are probably familiar with his works on Western forts. The two principal sections in the historical branch are the reference section and the history section. The reference section does many things. First and perhaps foremost it answers questions, questions that come from both within and outside the Marine Corps. Now these questions can range, as they did literally a week or so ago, from an eight-year-old school boy wanting to know all about the Marine Corps, to a more specific question from the Chairman of the Joint Chiefs of Staff requesting documentary support for an appearance before a Congressional committee concerning an alleged Marine incursion into Laos in 1969. Last year we answered over a thousand such questions or reference requests, and the average cost to the U.S. taxpayer per reply was $42.08. The reference section also executes the lineage and honors program which concerns itself with the service and awards entitlements of our Marine Corps units and activities. Tracing the lineage of our units and determining the battle honors to

which they are entitled is a very exacting business and a business that is very important to the traditions of the Corps. The reference section also does our unit histories. In addition to many brief unit histories we have a good series of regimental histories in pamphlet form, and we are getting to work now on a series of squadron histories.

Most of our writing for publication however is done in our history section which is headed by our chief historian and senior editor, Mr. Bud Shaw. Our published works include pamphlets, monographs and case-bound histories. There was supposed to have been a display of our products—it didn't get here; it came by motor freight instead of by water *(Laughter)* and so about all you'll find back there, greatly overshadowed by that magnificent display of Naval Institute publications, those things that we have in print and that you can have for the asking, and some back numbers of our quarterly newsletter. Our newsletter, *Fortitudine*, for example, won't cost you $600.00 a year *(Laughter);* the price is right: it's free. All you have to do is ask to be put on the distribution list. These publications however are written not for you; they are written for and aimed at the Marine Corps. We write operational history. We don't write diplomatic history, political history, economic history or social history. That's your business. Our business is to write history for Marine Corps use.

With all this as kind of a background, what is it then that we are doing right now in the Marine Corps historical division, and what do we plan to do? This past year we have brought out the last volumes of both the World War II and Korean War Marine Corps histories. Now this has cleared the decks for the Viet Nam histories. Last year we laid out a schedule to complete our Viet Nam sequential monographs within five years, that is by fiscal year 1978. These monographs will precede the more definitive case-bound histories, and we have set up a ten-year schedule for our case-bound histories; that is, they are to be completed by fiscal year 1983. Viet Nam was an unpleasant, unhappy war, and it isn't much fun to write about it.

A happier task is an ambitious "Marines in the Revolution" project, and this will include a definitive and well-illustrated history of the Continental Marines, including due consideration to that disaster that happened downstream here *(Laughter)*, which was the text-book example of what happens when the naval force commander won't talk to the landing force commander, and says, "I'll be damned if I'll take my ships into that hole." *(Laughter)* It set the development of amphibious doctrine in the U.S. Naval service back a hundred years. *(Laughter)* Actually, we are out to prove that Washington's crossing

of the Delaware was really an amphibious operation and that the Continental Marines, few in number, won the War of Independence. *(Laughter).* In this respect the Air Force historical program has a similar project: they're out to prove that George Washington's carrier pigeons were the predecessor of the Strategic Air Command. *(Laughter).*

Mr. Ives asked some questions about our oral history program, and I want to engage him in a dialogue on that a bit later. Time doesn't permit now, but we do have a first class program under Mr. Benis Frank who I think is one of the pioneers in military oral history. There were supposed to be copies of our oral history collection catalogue available to you. They are not there; however, I'll be pleased to send you a copy—anyone who would like to have one. We are also bringing out a comparable catalogue for our holdings and personal papers and manuscripts. Instead of having these materials divided between Quantico and Washington as was previously the case, we are now bringing them under one roof in the Washington Navy Yard, where they'll be much more accessible and useful both to us and also to outside researchers. Among the other writing projects we have under way is a definitive study of helicopter development in the Marine Corps. We're also working on a history of the black in the Marine Corps. We are taking retrospective looks at the Marine in the Mexican War and in the Dominican Republic, and eventually we hope to examine the whole role of the Marine Corps in Latin America under the Roosevelt Corollary. Ken Clifford's fine developmental history was mentioned in the preceding session. We hope that it'll be off the press this winter. It traces the development of organization, doctrine and to some extent equipment in the Marine Corps since 1900.

This then rather quickly is what we are doing and what we think we should be doing. I hope that what I've had to say constitutes a brief case study of our program, and I'll be interested in hearing your reactions to it. As I said, it is representative but not identical to what the other, larger services are doing. Thank you. *(Applause).*

LABAREE: I think as General Simmons has pointed out, his operation really includes a great variety of the kinds of materials which historians work with—the oral, photographic which he mentioned, and which I had not mentioned earlier, as well as the museum part, and so it sounds to me as if it's a very comprehensive program indeed. Our next speaker is Gerry Morris who is currently director of the Maine Historical Society, a position which he has held now for several years, having come to Maine from Mystic Seaport where he

had been librarian and where we first met. Gerry is a real professional in the field of library work, archival work and has some rather specific ideas and suggestions to make as to the responsibilities of a state archival program. Gerry.

State Archival Responsibilities

Gerald Morris

I don't feel terribly professional right now. What a difference between the military (if I may, General Simmons) and the private sector as pointed out in your talk! If I were to dare admit how much it costs us to answer reference questions at Maine Historical Society here in this gathering, I would be fired tomorrow—because there are enough men on my board here to do it! *(Laughter)* For gross inefficiency on our part! Also, I should imagine that most of you, after hearing our colleague, Mr. Armour, will feel that anyone who deals with archives has an obsession for dumps—because I'm going to talk about dumps too *(Laughter)* and I guess we should have an obsession on dumps as a matter of fact, since that is where so much of our good material goes, unfortunately. But I would like to talk to you a bit about your responsibilities as researchers regarding manuscripts and what you ought to be able to expect from archival agencies in this day of our Lord, 1973.

First, I'd like to discuss the dismal problem of the improbability that you as researchers will ever find your documents. I wonder if you'd ever thought that over. *(Laughter)* Have you ever thought how really ridiculous and illogical is the movement of documents from the originator to you the researcher? Outside the military, where they *must* turn in their logs and so forth—in the private sector, it is absolutely up to the whim of the originator as to whether you're going to get your document or not. It can go in several directions before you ever see it. It can go to a dealer. The dealer might have scruples—he might have no scruples. Just last week, a dealer calling from Boston was taking a collection apart, page by page, separating the Maine items in which we'd be interested, separating the Massachusetts items which Massachusetts would be interested in, et cetera. In other words, absolutely destroying the integrity of a collection in order to make a buck. This doesn't always happen, but it certainly happens frequently. And then of course you as a researcher want the pieces put back together again, after it's scattered to Washington, Oregon, Maine, et cetera. Once out of the hands of the originator it can go to you immediately if you're lucky. Many of you in this room are lucky, I know very well, in maritime history, where the originator has en-

trusted you with his documents. Whereupon you sit upon them until maybe the ripe old age of twenty-three, or maybe the ripe old age of eighty—but nobody else is going to see those documents until you've done your great opus. *(Laughter)* Documents can also be given to family and friends by the originator. Sometimes it's because the originator didn't give a damn what happened to them; *who* could possibly be interested in business records after you've made your money with them? We have in maritime history, as you know, the most delightful scrapbooks that used to be logs, and all sorts of things of this character take place after the family takes over these precious documents and hands them on to future generations.

Documents can even go to a repository or a museum—which I'm supposed to give a vote of confidence here I think, since I'm supposed to represent a manuscript repository. But let me withhold it for a little bit, because the same dismal fortune which I call "Instant Burial" can happen in a repository just as well as it can happen in the family attic. At the Maine Historical Society we aren't guiltless. We have papers there seeing the light for the first time in eighty years—and the only other person who knew about those papers was the one who brought them in eighty years ago! *(Laughter)* That, of course, is because we haven't had sufficient help (we always say that) which is generally true. Nevertheless, documents can and do get lost in repositories, and we all have our favorite stories on that.

Next I come to Mr. Armour's and my favorite topic, dumps. Also this reveals how pathetically uninteresting the life of an archivist is—because one of the most exciting days I ever had was in the summer of 1970 when somebody brought me a dishpan; and in that dishpan, believe it or not, was a group of ship's papers dating from the War of 1812. This woman who brought them in wouldn't squeal on the donor—and not only that, I couldn't even risk taking her name down for a Certificate of Gift—had found these documents, guess where, right at the Portland dump. And she couldn't resist this group of papers, and thank God she couldn't; they happened to belong to John Fox, a prominent Portland merchant. I might add for our next speaker, our New Bruswick colleague, that the dishpan was the nearest I ever came to the study of underwater archaeology.

Any one of these dismal alternatives I have talked about can result for documents in what I call "Instant Burial" or withdrawal from any hope of retrieval for generations. In the last analysis, the fate of documents is dependent upon the fickle whims, motivations and

loyalties of first the donor and then those who handle the papers for him.

What then, one may ask, constitutes a *logical* location for the deposit of documents? Perhaps the answer to this is that one would expect to find a document near the location where it was used—and that's about as logical a clue as you can find. In a word, if you have a ship's log or ship's papers of a business in Halifax, you certainly wouldn't expect to find it in Texas. But I bet you will! *(Laughter)* So I think that if you can go along with this sort of logic, it also makes a serious mockery out of the Presidential library syndrome which we've seen getting worse and worse—to the point where anybody who makes a Presidential study in the future might well plead, like Dr. Ives, and say it's too damned elitist and leave it alone, and save himself a lot of travel and money as well.

It really is ridiculous, and it gets materials into places where there is no associative documents whatsoever. One has to go back to Washington again. It makes no sense at all. The National Archives, and heaven knows I'm not trying to thumb my nose at the National Archives—but in setting up their Regional Depositories (which I can see the reason for, no question about it) but in setting up these Regional Depositories, I think this does show what I was talking about. How many people know, unless they've read their *Maine Historical Society Newsletter* or the *American Archivist*, that the judicial and circuit court records for Maine are where—Maine? No. Washington? No.—Waltham, Massachusetts, that's where. Unless you happen to pay your income tax in New England chances are you would have no idea that there was an important repository at Waltham, to say nothing for 18th century court and maritime records.

To make you feel even worse—when the document goes from the originator to a repository, do you realize that in this little State of Maine alone there are 158 public libraries? And don't think they don't have documents. Because many of them do. 108 of them in Maine specialize in various subject areas. Philip Hamer, in his round-up *(Guide to Archives and Manuscripts in the United States)* (Yale, 1961) in 1961 found thirty-one worth reporting in Maine. And this was in 1961—Bath, for example was not reported in Hamer, nor was much for Orono. So there is a lot of ground to cover after that ten years. Nevertheless, there are some 158 potential repositories in the State which are libraries, plus 128 historical societies, which are also grasping for documents. The Maine League claims 125 of them, and I've often wondered who the three are they don't claim. *(Laughter)* But at

any rate I have never investigated that, but the *AAM Museum Directory* also lists 99 museums in this State. So that there are really, in this State, approximately 200 places where the document you are looking for just might show up! Isn't that good news?

Donor loyalties, particularly in maritime history, or any subject which is nostalgia-laden as maritime history can become, cuts across party lines and across state lines too. So that you can also find a document almost anywhere in the United States where there are 7,109 public libraries with 4,881 branches. There are 1,667 college libraries, all of them getting very public relations conscious with their own special collections; and there are 4,200 special collections, such as the Maine Historical and others. Philip Hamer, again in 1961, found that there were a total of 1300 manuscript repositories worth reporting in the United States. In Canada, I found that there were 430 public libraries, although I'm not so sure that . . . Do they collect manuscripts as aggressively as they do here? (VOICE: I don't think so) Good! *(Laughter)*. There are 216 colleges and junior colleges in Canada, and I suppose many of them have archival material. And I understand that you gentlemen (of Canada) have 740 special libraries. So, if we add this all together, which God knows I'm not going to, we do have a lot of opportunity for missing just that document which you want.

Okay, now what can we do to improve access in this terrible, really dismal, wretched picture, due to—as Mr. Labaree points out—human nature; just what can be done? In the United States at least—and I assume in Canada, but I'm not sure—it is now a much more enlightened age. Hardly a week that goes by, that I don't receive a document (it might be minor), something from Nebraska or Nevada, which belongs in Maine. By the same token, a lot of Yankees went down, you know, and really scoured the countryside during the Civil War—and we've sent a number of things back to the Virginia Historical Society, the reason being, it's an enlightened interest. It is a hell of an expense to keep manuscripts. There's no occupation on earth more expensive than doing that, and therefore it is just enlightened interest in getting them back where they'll be used, and found. In Maine, there really (because we are a small state, not geographically but in population) there really is developing a tremendous amount of cooperation. For example, with the Maine State Archives at Augusta and ourselves at the Maine Historical Society in Portland, there's no question, if a document of the 17th, 18th, 19th century is a public document, it goes to the State Archives. If it's in the private sector, it

goes either to Maine Historical or that locality which is nearest the point of origin. So that's the best of all ways of cooperating, of course: by word of mouth.

Now, what can you as a researcher and administrator do to help? This sounds sort of corny, but I know how you people operate. *(Laughter).* You come across documents all the time as researchers, documents that are on the loose, and I've heard you maritime people: if it has a lot to do with boilers, say, then let's send it down to Mariner's Museum; and if there's a lot of sail plans and sail potential, then they say—well, let's put that at Peabody of Salem; and if the documents look profoundly important having to do with economics, then, send them to Baker Library, they will take that. So that there is a natural division of manuscripts going on all of the time due to the influence of you gentlemen as administrators and researchers. Of course, that's exactly the way it should be—and we as librarians try to nudge these things to an appropriate spot, too.

So let me end by telling you what I think you should expect of any manuscript repository; and if you insist and expect these things from any repository to whom you recommend documents then it'll go a long way toward avoiding this instant burial I'm worried about.

First, a responsible repository has got to keep regular hours; that is, this open-by-appointment or open-at-the-whim-and-will, and so forth, I think, is irresponsible for any organization or institution taking custody, hence care, for a large number of documents. So I think that you should insist on that. Secondly, they must regularly process, or have the ability to process manuscripts, which is a highly developed art, but at least there must be a person around there who will ultimately be able to process your manuscript so that it won't be lost for eighty or ninety years. Third, they must be able to care for manuscripts physically, which is a difficult chore. Last of all, I would, if I were you, insist, or I would at least ask, where this document is going to be reported? Is the repository going to take your manuscript and sit on it, or is it going to tell the American Association of Manuscripts, an historical journal, or (the great hope of us all) the *National Union Catalog of Manuscripts,* begun ten years ago? I think that we as repositories are morally obligated to make this reporting.

Now in ten years, it seems as if there aren't too many maritime manuscripts in the *National Union Catalog of Manuscripts.* Nevertheless, in those ten stout volumes (they're a mess to use, but are they ever revealing!) agencies have reported on 29,356 collections—a drop in the bucket; but, that *does* mean that we are

29,356 collections richer than we thought we were in this country. This was reported from 850 repositories in the United States. I wish Canada were included; it isn't. This means that for those collections there are 173,000 index entries. What does that mean? That means that for the document you haven't been able to find—you have 173,000 chances that you might be able to find it, which wasn't true ten years ago. This central reporting for the United States is essential. and I really think that not only the archival profession, but those of you who are researchers or administrators have every right to expect that those precious documents that you won your dissertation from are going to be reported at the earliest opportunity. Thank you. *(Applause).*

LABAREE: Our last speaker is perhaps the only other qualified scuba diver on our program this weekend. Contrary to rumor, he is not going to talk to us about what Ms. Judy Joye does with those fishes down beneath the sea, but rather about a project that he has been involved in, first in the Bay of Fundy, a survey of underwater historical resources in the Maritime Provinces. This is Mr. Eric Allaby.

Underwater Archeology

Eric Allaby

I think everybody here is anxious to get to the cocktail party so I took my pen and scratched out a few things here, and I'm going to deal just with generalities.

There is something about a shipwreck which seems to fascinate people. Perhaps it is the mystery, not a little enhanced by tales of piracy and treasure. There are dreams built and shattered by shipwrecks, the dreams of the entrepreneurs daring to trade through treacherous waters, the dreams of salvors trying to reclaim that which is lost by early mariners, the dreams of people from all walks of life hearing of shipwrecks, picturing them in their minds and wondering. Shipwrecks are so near, yet the mental concept is so vague. But the wrecks are there, under cold water, dark and mysterious, with access forbidden to most people. Perhaps it is this forbidden fruit syndrome which intrigues people when they think of shipwrecks, and perhaps it is a privileged defiance of nature which exhilerates divers as they move about a wreck site barred from common view for decades, even for generations.

Underwater history on our North Atlantic coast focuses on the 19th and 20th centuries. There are certainly a number of wrecks which occurred previously to 1800, but the discovery of wreckage belonging to a long past civilization is highly unlikely. Certainly there is nothing prehistoric about this period in the development of the region. Interpretation of the artifacts discovered on a wreck site of our coast depend less on anthropological scholarship and more on a tar's familiarity with the intricacies of past ships.

A shipwreck gives credence to maritime history, maritime with a small "m". It is one aspect of a seafaring culture. The culture of a region is determined by a natural selection of that which is important to the inhabitants. Representative of the ideals of our North Atlantic coast of the 19th century is an ocean going vessel beautifully constructed to make the most efficient use of wind possible to existing technology. Indeed, if the sailing ship could be the representative of a region's culture, then this coast must claim the symbol. The ship is a symbol of pragmatic aspirations. A sense of association with this heritage requires tangible substantiation. The shipwreck is a direct

link with our seafaring culture. The sea is a very real force governing the seafaring culture. Winds, tides and heavy seas are a super human reality to be reckoned with in a seafaring culture. Sheltered from the elements as people are now, it is easy to lose touch with the weather, but a visit to a coastal community will evoke the seafarer and the most confirmed land-lubber. The shiver at the wail of fog horn, the hypnotic spell of the sea swells swirling at the base of steep cliffs, the inexplicable fascination with the horizon; there must be at least a little bit of seafarer in almost everybody. In exploring accurately the sea-and-ship culture, one must revere the superior aspects of weather and sea power; the awesome power of the sea is well demonstrated by the capricious havoc it wreaks on the masterpieces of man's ingenuity in sail and steam. The ability of the sea to tear apart a ship's hull, to break, twist and shear enormous pieces of steel while at the same time preserving unbroken a delicate piece of china in a sheltered ledge crevice is something which cannot easily be appreciated without actually seeing the results. To communicate the sea's complete disregard for man's best technological efforts is to increase in small measure an understanding of the sea and its power. To communicate an understanding of the sea would give another vehicle of inspiration to those who shape other aspects of our culture—painting, writing, music, et cetra. Consider, for example, the possibilities for a musician who has learned to understand the pockets of calm which exist in the crevices under the waves and can shelter a delicate piece of china from crashing seas. Could he not perhaps be inspired to attempt to do a similar thing with sounds—perhaps preserve a small, a delicate melody in the midst of crashing sounds of a percussion?

Shipwreck is a dramatic aspect of seafaring. Any natural disaster peels away the veneer of artificiality from life. When a ship is wrecked, men drop their masks of respectability and custom. The disaster brings out the noblest in noble men, the barbarism in those of different moral constitution. Men react. A shipwreck involves conflict and sometimes violence of man caught in adverse and superior circumstances, opportunity for character analysis, all sorts of qualities which would be inviting for a good short story or novel. But if historians know very little, practically nothing, about shipwrecks, on what then can those who shape other aspects of our culture draw for inspiration and background? The best that could be done would be based on misinformation and fantasy.

There are several reasons for the lack of understanding of wrecks and the underwater situation. The first one is inaccessibility; this was

a major reason until recently. However now, though we have the technical ability to go under water and visit a wreck, it is relatively such a new experience that we lack understanding or background to see or know what is there. The second one is misconceptions. The notion of venturing in through a door in a high poop galleon only to encounter a giant octopus ready to strangle you is just about dispelled. But the ideas of how things are and how to do things underwater—these ideas are filled with misconceptions. The major misconception that I have encountered is land orientation of methods. People try to apply land methods underwater; this is especially true in archeological work. Work underwater requires methods that are developed in water-oriented thinking. The third one is anxiety. This is a particular problem among novice divers, and it can only really be overcome by increased experience in the water, especially deep water work.

The biggest problem with anxiety is the incompleteness of observation: simple problems, simple tasks are done poorly and done inaccurately. And this is a very real problem, especially for those who may be very knowledgeable in archeological procedure, but when venturing underwater, anxiety is simply too much to handle. One problem in this region is cold. Cold slows your thinking, and gives the same results as anxiety does, but for different reasons. Anxiety is a sort of psychological effect of being underwater. The cold is a physiological effect: there is very little you can do about it except increase the suit capacity for warmth. I can give you a personal example of this. This summer I changed from the wet suit to what is called a unisuit which is ever so much warmer. And I noticed immediately a tremendous change in the results of the work that I could do; the observations and measurements were very much more complete and more comprehensive with the warmer suit. The fifth reason is a lack of knowledge of the processes of deterioration—chemical, electrolytic, physical, shipworm, et cetera. Now when more is learned and systematized, then appropriate training may possibly reduce this problem. But we do have a lack of knowledge here, and this means lack of background before any work can be done.

The methods of underwater history are aimed at overcoming some of these difficulties, but the sea does not yield her secrets easily. For most shipping disasters on this coast no wreck will be found. Frequently when ships were driven ashore, they were stripped, dismantled and the unusable wood burned for the fastenings. Many a ship was driven ashore, and lying in an exposed position was broken up by

nature. After a few years the only traces, and these would be of debatable origin, are scattered remnants of nonferrous fastenings. A few sites will yield their secrets begrudgingly. At first such a wreck appears as a disorderly pile of unnatural shapes. It is at this point where irreparable damage from the point of the view of the historian may be done, where some sea secrets may be lost, never to be discovered. The shipwreck is like a time capsule; in an instant, relatively speaking, it freezes facets of a way of life, subjecting them only to the gradual chemical and organic changes experienced under the sea, but protecting them from the restless notions of man. The unlocking of the time capsule is an irreversible process which offers no pardon for mistakes. A wreck is safer at the mercy of electrolysis and shipworm than in the hands of a diver who lacks an understanding for shipwrecks. Nothing should be disturbed before an extensive preliminary work is done.

The first step is to obtain as much background information as possible. If the name of the ship can be ascertained, as much information as its construction and history should be assimilated as can be found. There are cases, for example, of technological developments being discovered on shipwrecks as having taken place at an earlier date than was commonly supposed. A thorough survey of the wreck site is the next step. All parts of the wreck should be plotted with respect to each other. There are several methods; triangulation is the cheapest,but it also requires at least two people to work together to do this well, and there are problems in triangulation in distortion due to differences of elevation. The grid method which is basically an archeological method is a very good method but it requires a great deal of time to prepare this method. And there are also problems in setting up a grid on a wreck where there is uneven elevation. I use a polar coordinate system, which is somewhat similar to that which a surveyor would use on land, giving all points a bearing and an elevation and a linear distance with respect to reference points, and this seems to have proven to be quite accurate and convenient to use. The extent of the survey must depend on the conditions. Under conditions of high mechanical change where there's a great deal of sea motion that would shift wreckage, plotting identifies location. That's about all you can do, because the location of wreckage will really have very little bearing to its original function in the ship. It's simply that the location of the wreckage is a result of the whim of the sea. Where little post-wrecking movement has occurred, the attitude and location will yield valuable information on structure and function and also serve to

aid in prediction of location of more discovery. This is a very important feature of plotting that, after you have plotted, you can usually predict with reasonable accuracy where you're going to find more artifacts. In general, the deeper and heavier, the more accurate the survey requirements. This leads to a time-depth problem: the deeper you go, the more restricted you are in time. But at the same time, the deeper you go the more accurate your wreck work will have to be, because less sea action will have been there to disturb it. The position of the wreck and its attitude with respect to surrounding bottom and land marks should be noted. This will help to reveal much of the actual wrecking of the vessel.

It is important that an inventory be made, the extent of detail of which would depend on the circumstances of all identifiable objects to be found on the site. Naturally the inventory would grow as more exploration is conducted. In describing a wreck site, a sketching ability would be very helpful, and photographic coverage is almost essential where conditions will permit. Unfortunately, photography is a two dimensional portrayal. This problem has been overcome and very successfully by the use of stereoscopic cameras, which allows the study of photos of a site to be done in three dimensions. But reasonably accurate photo coverage can be obtained by the use of many photos from many different angles.

As can be seen, a great deal of work must be done before there are any plans for removal of artifacts. In the past, people have made the mistake of supposing that the most important aspect of underwater study is the recovery of as many objects from history as possible, after which a hurried attempt is made at a makeshift preservation process. This is totally the reverse of the correct procedure. With the artifact gone from the wreck site, detail of its origin and significance in the wreck are soon forgotten, if indeed they were ever discovered. With a thorough knowledge of the wreck site and the artifacts anticipated, a scientific system for the preservation of any recovered artifacts can be assembled. The correct procedure however is seriously jeopardized by the inadequate protection afforded the serious historian underwater. (Now I'm speaking here in terms of the laws that apply to maritime Canada. I'm not sure how the laws are here in Maine, but perhaps you may experience the same problems.) A site which he may have been measuring and surveying for many hours of diving time is, under present law, fair game for anyone capable of inhaling air from an aqualung to plunder as he pleases. A certain amount of protection may be afforded in some circumstances, but this

is not really satisfactory. The benefit to the public is determined by the usage of the material garnered from a wreck site, and the understanding of this material and its context and successfully communicating this understanding. The communication of understanding is, after all, the goal. Is not a goal of this conference a communication of understanding? *(Applause)*

LABAREE: I think the passage of time has probably suggested that we should not linger here at this time for questions, but rather take the opportunity of the more informal periods to come to talk with each of these men whose professionalism has struck me as being most impressive in each of their fields. And I would hope that we would have the opportunity later on to talk with them and pursue in greater detail any particular points that we would like to. I would like to thank all of our speakers and thank you for being with us. *(Applause)*

BANQUET

One Hundred Years of the Advancement of Professional, Literary, and Scientific Knowledge in the United States Navy

R. T. E. Bowler, Jr.

REYNOLDS: Ladies and Gentlemen, if you could finish your cocktail banter . . . Commander Bowler has just been heard on T.V. and he's saving all these good things. I'm happy to report that the United States Naval Institute was born 100 years ago this month, in terms of its *Proceedings;* it is celebrating—I guess more than anywhere else —in Orono, Maine which is purely coincidental but we're proud to play a part in this. The United States Navy is of course the most powerful Navy today and (VOICE: How about the damned Russians?) *(Laughter).* . .well, the Russians are trying, but frankly I'm not too worried about them. Seriously, I think it is the duty of blue-water navies that do make a pretense to command the sea, and I think our Navy does, to examine carefully of course what we're doing, and what is expected of us—if I may use the first person plural—to police the sea lanes of the world and some of the responsibilities involved. So that it seems to me that the United States Naval Institute like the Royal United Services Institute of Great Britain has an intellectual role that is probably unique in the world today. It *is* unique in the world today—an immense responsibility, and the Russian challenge is of course only one of these things. We've heard from Judy Joye and others that the whole problem of international law is a very great concern to which American Naval officers must address themselves at their peril.

It gives me great personal pleasure to introduce Commander Bud Bowler. The last time I had dinner with Bud Bowler was at the Japan Inn in Washington, D.C., about four years ago; he and David Scott as I recall and General Minoru Genda who was the guest of the Naval Institute at that time, in 1969, were dining. General Genda, if you watched "Tora! Tora! Tora!" the other night on T.V., was the man who planned the tactical details of the attack on Pearl Harbor, and Commander Bowler was Secretary/Treasurer at the time in 1969 when I was privileged to be the moderator of the Distinguished

Visitor Program; some of you may remember, we brought General Genda to Orono. This was the highlight of his trip, I think really, because we had four Japanese-speaking individuals on the faculty and he was able to relax over Maine lobster. *(Laughter)* At the Japan Inn in Washington, D.C. General Genda and the three military attaches of the Japanese Embassy, one a colonel of the Army, one a colonel of the Air Force and one a Naval aviator, Captain Shimizu, if you remember Bud, all had been aviators, if not pilots then ground-based, at the end of the war. In fact I remember the Air Force attache had flown his first mission in Manchuria against the Russians on August 15, 1945, which is of course the day the war ended. But Commander Bowler and I and Dave Scott who was then on the Institute staff and the three attaches and General Genda were sitting cross-legged eating our rice and sukiyaki in the Japan Inn and having a wonderful time. So it was with really some regret that I terminated my experience, my participation in the Naval Institute's Distinguished Visitor Program. Coming here to Maine I think there were certain logistical problems: I remember I flew down in March of '69 on the last plane that got through before a tremendous blizzard. So that here I am and I'm glad to say that my ties and Maine's ties with the U.S. Naval Institute are still firm and intact.

So it gives me great pleasure to present to you Commander R. T. E. Bowler, Bud Bowler of the United States Naval Institute of Annapolis, Maryland who has been with the Institute at least a decade and I'm sure much longer, a former naval aviator who is now in charge of the Institute in this month October 1973, on the 100th anniversary of the publication of the Institute's *Proceedings*, a hand-wired copy of which each of you has received. It is a great pleasure for me to present Commander Bud Bowler, who to me represents, and I don't think this is too strong, the conscience of the United States Navy. *(Applause).*

BOWLER: Thank you, Clark. Admiral Hooper, General Simmons, other distinguished guests here this evening. I'd like first of all to extend to all of you greetings from Admiral Zumwalt, our president, and the other members of our Board of Control and staff. They've asked that I express to you their appreciation for your taking part in this, our only occasion of celebration this month of our 100th anniversary. Some years ago we had planned a large party to which we had intended to invite our 65,000 members. *(Laughter)* Unfortunately our recovery from the adverse financial circumstances of recent years has

left us about $200 short of the funds necessary to host that function, so we cancelled it. *(Laughter)*

This morning, as I listened to Judy Joye and her dynamic presentation, I became somewhat irate with Clark for not having told me of the quality and kind of talent he would have here during this symposium. Had I known this in advance, I most certainly would have asked Judy to give our Naval Institute presentation. I would have made an effort for her to have done this for the Institute while wearing a see-through blouse. *(Laughter)* When I told this to Professor Albion, he remarked that had we done so, instead of the presentation being a few dry remarks from me, it would have been a thing of "sheer joy" for all of us. *(Laughter and applause)*

We're particularly proud to be here, Frank Uhlig and I, on this occasion of our 100th anniversary. This is indeed a high honor for a quartermaster-turned-senior editor and airplane driver-turned-magazine seller. *(Laughter)* I might call your attention to our anniversary issue. (As Clark explained, they are hand-wired, the first two hundred and fifty copies off the press. We have a little problem with our cover stock, and as you open your copy, the cover will almost tear off. We shall replace them for you. We'll get all of your addresses from Clark and send you follow-up copies). You will note in this issue that one of the truly great articles, and one which will be definitive for the next century, is by Professor Kirk, who's here today with us. I just hope that he recovers from the intense pressure which we put on him to finish in time. *(Laughter).* But he did, and read his article with care, if you will; the research and the painstaking care with which he produced that great article provide for the issue its cornerstone, and we're very appreciative of his good efforts. I might also note that in the selection of the ten most notable books of the century you'll find the fine work by Clark Reynolds, *The Fast Carriers*, and although I understand the bok sold somewhat less than one hundred thousand copies, those of you who have not read it, as you may now do, will wonder why. (It is truly a definitive work and, in the near future, funds permitting and an arrangement with the present publisher permitting, we hope to continue it in print indefinitely.)

Let me spend a moment telling you where we've been in recent years, and where we hope to go in the future, a little factual information. Those of you who may have glanced at our financial reports during the last four or five years will recall that the Institute, like other publishers, experienced some pretty difficult times. Specifically, we lost a considerable amount of advertising income during the recent

anti-war years. In addition, there was a modest change in the government purchasing policy of *Bluejackets Manuals*: for a while they were purchased, issued and recalled, as opposed to each young white hat receiving his own copy, which had been the case for the previous fifty years. And the sum total of these two events was an impact on us of about four hundred thousand dollars a year, adversely. Had we been a profit-making organization with good profits we would have gone from very black to not quite so black; as a non-profit organization we went from slightly gray to very intense red. And some additional traumatic events occurred. We had to cut back our staff. We were in the midst of a big expansion, because, prior to that time, we, quite candidly, did have more money than we knew what to do with, and we had hoped to put that available money into new books, not necessarily for profit. But we had to cut back; we had to lower our sights and narrow our horizons in our publishing program. I'm sure that those of you who are concerned with these kinds of things have noticed that the *Proceedings* paper quality was reduced and that the number of pages was reduced for a few months. We've just about bottomed out now and have begun the climb back. Unfortunately, this consideration for money, or the lack thereof, has necessarily influenced our efforts the last three or four years, as opposed to the good old days in which the editors were not concerned with that kind of thing.

I might run through for you the list of our new books published in 1973, very briefly. Some were displayed today on the table; there may be those here among you who have not seen them. *The Royal Navy in America* by Neil Stout. *First Across* by Richard Smith; now this is a great yarn. Those of us who have been associated with naval aviation are, of course, particularly fond of this one; the research and the writing are superb. Another book in Jerry Williams' oceanography series is *Oceanographic Instrumentations*. We put together Frank Uhlig's *First Ten Years* of the *Naval and Maritime Chronology* in a single volume. *America Spreads her Sails* was our first effort to relieve the pressure in our *Proceedings*' history bank. Clay Barrow picked a dozen history articles about the 19th century which were awaiting publication in the *Proceedings*–we have about an eight year supply—and put them together in book form. *To Use the Sea*, our book of readings in sea power and maritime affairs, is a recent effort promoted by the N.R.O.T.C. program people who have a seminar on maritime affairs and who asked us to do this, and Frank and Bob Brewer, cooperating with the *Naval War College Review* editor,

pulled these together into a very useful form. We printed only three thousand to satisfy N.R.O.T.C. requirements, but already have requests for over a thousand more. We will reprint it and will update it every two years. *The Cruise of the Lanikai* will be out soon. Most of you know Kemp Tolley's writing, and this is truly his best work. We hope to market this on a very wide scale. The political story involved is fascinating, as most of you know, the *Lanikai* having been sent on her cruise by President Roosevelt. *Grand Strategy* by Colonel Collins we hope will be one of our most significant books. We have advanced orders for about 1500 prior to publication. Colonel Collins, an Army officer, revamped the study of strategy at the National War College and is now the Library of Congress's number one strategy expert: he conducts classes for freshmen Congressmen and Senators in national strategy. (VOICE: Higher education.) A book on military management which we've been looking for for years was written by Commander James Carrington; *Command, Control and Compromise*, a mid-level management book for all the armed forces, will sell well for us.

In 1974 the book program will grow a little, more money being available. We'll add a weapons book to our Fundamentals of Naval Science series. A new title, *Ship Dynamics* by Rameswar Bhattacharyya, will be very unique. It is a mid-level book on sea-keeping and maneuverability for the naval architecture profession and for the naval officer at sea. Finally, *A Naval Uniform Guide;* Lieutenant Commander John Castano pulled this together for us; it's a fine book. We have a new book on the aircraft carrier written by Commander Charles Melhorn, *Two-Block Fox*, in which he studies the political and economic as well as the military aspects of why and how the carrier sprang into being. The original manuscript is almost letter-perfect, and we hope to publish it within the next seven to eight months. Vince Ponko's *Ships, Seas and Scientists* will be out in the summer of 1974. Bob Seager and Doris Maguire hopefully will finish *The Alfred Thayer Mahan Letters* next year: we want to get that three-volume work into print in late '74 or early '75.

In the *Proceedings*, we should have about our most exciting year to date by virtue of a Board decision to publish, in the first eleven months of 1974, consecutively, the eleven articles which Admiral Gorshkov wrote for *Morskoi Sbornik*, the *Proceedings*' Russian counterpart. Some of the titles are "Russia's Road to the Sea", "World War I", "The Soviet Navy in Revolution". We've asked distinguished American Naval officers to comment on each of these:

for example, the third article to appear, in March, "Russia in the Post-Napoleonic Period to the Russo-Japanese War"—Admiral Hooper will do the commentary on that. Admiral Carney will cover "World War I"; Admiral Calvert, "The Soviet Navy Rebuilds From '28 to '41"; Admiral Burke, "The Soviet Navy and the Great Patriotic War", and so on. There will be one of these articles, translated as near verbatim as possible, together with the commentary, each month by a different distinguished senior Naval officer in each of the first eleven issues of the *Proceedings* in 1974. We shall put them into book form upon completion of the series in the *Proceedings*. These commentators have all received copies of the three analyses run by the Center for Naval Analysis. Bob Herrick, with us today, did one of these, as did Commander McGwire and these are proving very useful to our commentators.

In Frank Uhlig's 1974 *Naval Review* we'll have some superb essays. General Cushman will write about what he thinks the Marine Corps can do and should do in the future, and I can assure you the article will be full of many surprises. Captain Archibald Howe of the Coast Guard will write about the new kind of Coast Guard which will spring into being between now and the end of the century. General Moulton of Royal Marines, retired, will examine NATO's considerable power which he finds to be both ill-balanced and ill-deployed, and tell us what he thinks might happen in the future. Captain de la Mater will write about how and why specific naval aircraft are acquired and what he thinks our aviation inventory will look like a dozen years from now. Norm Polmar, who has recently visited the Soviet Union, will describe the history and background of the Soviet carrier now abuilding and offer his views on the future of Soviet seaborne aviation. And, lastly, we have the very comprehensive and detailed fine article by our good friend, Roger Taylor, on the smaller boats of the U.S. Navy.

Since I am in the presence of many fine naval historians I would like to talk for a few minutes about our oral history program and invite all of you to avail yourselves of the magnificient wealth of material available there. This is a program which sprang from the fertile mind of Roger Taylor a few years ago, and we were most fortunate in obtaining the services of Dr. John Mason, who has done a superb job for us. Several months ago in the *Proceedings* we had an article by Dr. Mason in which he listed what he had done to date, with whom, and what is available now, and what will be available when open in the years ahead. I might mention several examples of the kinds of things

involved here. Several of these are from transcripts which are not entirely open yet, and I would ask for you to bear that in mind. In thinking about the present escapades of the White House, Dr. Mason recalled Admiral Dennison's description of what happened with the Forrestal papers; it seems that when Mr. Forrestal was in Florida, hospitalized, quite sick, and from time to time incoherent, the matter of greatest concern to him was his collection of papers in the Pentagon, and he called President Truman five or six times a day to inquire about them and to alert him to his concern. Each phone call was exactly the same, and they finally bugged the President so much that he asked his aide, who was then Admiral Dennison, to do what he could do to acquire those papers, bring them to the White House, and put them under lock and key. There was, of course, no way in the world that Admiral Dennison could do this through the normal existing relationships. So there developed a midnight requisition party. The Admiral, with several security people and a pickup truck *(Laughter)*, went to the Pentagon and literally absconded with those papers, bringing them back to the White House so that the President could then assure Mr. Forrestal that they were safe. And, of course, they contained all sorts of things that were signed out by responsible people in the Pentagon, but all of this was ironed out eventually.

Another interesting item from the transcriptions concerned Admiral Ward and the Cuban Crisis, when things were so intense and so much happened in such a short period of time, the normal sequence of events would have been for him to have received, in one message, change of orders from Commander Phib Lant to Commander Second Fleet, this decision having been made. But what happened was, in order, first the ships under his command were ordered into action without his knowledge or any explanation; second, he was relieved of command and ordered to Washington; and third, he was then advised he was the Commander of the Second Fleet. This illogical sequence caused Admiral Ward to spend a number of frantic hours wondering what had gone wrong, what he had done, and why he was being relieved of command, presumably to be punished. A very unusual sequence of events.

Admiral James tells about an incident in the construction of the *Enterprise*. He went down for an inspection, got aboard, took the senior on-the-job naval constructor on a complete tour that started at the keel. By the time he got to the top deck in the superstructure he was completely out of wind and totally exhausted, and he demanded to know "where the hell the damn elevator was." His escort pulled a

letter from his pocket, a letter from Admiral James citing that economy demanded that the elevator be removed. Needless to say, Admiral James took back the letter and reinstated that elevator on the *Enterprise. (Laughter.)*

Admiral Kleber Masterson gives some revealing insight into the TFX situation, and this manuscript is open. He was Chief of BuWeps at the time and was very deeply involved in the unanimous recommendation from the service chiefs to go the Boeing route. Admiral Masterson does not know and could not definitively state why that recommendation was not followed, but all of the details vis à vis the meetings of the service chiefs and how they came together finally and reluctantly agreed to the other alternative—provided it met the specifications in the Boeing offer—is a very revealing story. Those of you who might review the list of what Jack Mason has done and who note omissions in the way of distinguished people who have made naval history, who have taken part in it, but are not in our Oral History Program, we would certainly be delighted to hear from you so that we can do our very best to complete this spectrum of coverage. Many of the fine prospects are, of course, getting along in years, and we have reached the frantic point in seeking complete coverage from all the men who have so much to tell us.

A problem I'd like to discuss with you briefly, a problem for which we don't really have any solutions, but one in which you can help us with your general understanding and perhaps in conversations with others, to help us to explain, as we must continue to do, and that is the image to some people of the *Proceedings* as a "house organ". There's not much we can do about that image because a person who doesn't take the time to analyze what we have published in the *Proceedings* can assume that the presence of the Chief of Naval Operations as our President and our having a Board of Control consisting of senior active duty officers in the Navy, Marine Corps and Coast Guard, means that the *Proceedings* is a house organ and must therefore reflect faithfully the views of the incumbent C.N.O. and echo the "party line". I'm sure that in years gone by the same criticism has persisted. This situation is foremost in our minds at all times, and by our minds I mean those of Admiral Zumwalt, the members of the Board, Frank, Bob Brewer and me. It is not really true. Last summer, for example, in spite of the fact that we've had a reasonable amount of good controversy (some of which has been considerably embarrassing to Admiral Zumwalt in recent years), Admiral Zumwalt felt so strongly about it that he made some proposals that would, in his

opinion, increase the amount of controversy we have in our pages. He asked the Board to consider, for example, the hiring of an independent, nationally-known editor who could editorialize from his own position without control or interference, if you will, from anybody. He suggested that we go to such people as Senator Proxmire, Mr. Kuzmach and others, to invite them to fire away at the Navy on our pages; and he had a few other very startling recommendations. The Board studied this very carefully for a long time and finally prevailed upon him to truly appreciate with us that our pages are basically for our own people. We do have, as you know, many non-military authors, but they are the kind who care about the Navy, who are concerned, and who are constructive in their approach, and who, above everything else, are not in the political writing arena. Admiral Zumwalt agreed, and we continued on course.

One of the results, though, was the Sec Notes item which appeared in November, in which we suggested some controversial topics about which Admiral Zumwalt and the Board members would like our authors to write. They were such titles as "Our Mine Counter Measures Force" has been condemned to impotence by C.N.O. We must reverse that course immediately. "If We Want to Man Our Fleet, Let's Woman it", "Must all Submarines be Nuclear?", "Keep the Draft, Mr. President", "Needed: a Baltic Squadron". "If We Really Believe in a U.S. Flag Merchant Marine, We Had Better Support The One We Have". "When Navy Beginners Become Useful, Pay Them Well, But Not Before". These are the kinds of things in the Navy which are controversial in nature; these are the kinds of things about which Admiral Zumwalt has made positive decisions with which many people don't agree, and he, as an individual, and the Board members want people to write about them. He wants to know if he's been wrong and how badly; he wants these things talked about. The message, of course, is to you writers as well as to our active duty members. The main point I'm trying to make is that we would appreciate having you, in your conversations with people when this comes up as it inevitably does, describing us not as a house organ, although the image is there, because we work very hard for it not to be so.

I'd like to touch on one point, if I may, that relates to a point that Judy Joye made today. She prevailed upon you gentlemen to, as she described it, come out of your ivory towers and go after the legislators, to try to exert some influence on them. We've come to believe as a result of some research in recent weeks that perhaps this kind of

influence in critical situations on legislative bodies might not be necessary in the future if the community of naval historians and the community of oceanographers and others in the related disciplines of the maritime industry were to concern themselves properly and intensely with the influence in the public schools. Admiral Cagle, the Chief of Naval Education and Training and Chairman of our Editorial Board, for several years now, as a result of a lot of personal research, has come to believe that the amount of good material in public schools, at the elementary level and high school level, about the maritime traditions of our country, about the opportunities that the oceans not only offer to us, but, as Clark pointed out this morning, demand of us is practically non-existent. We have analyzed carefully the offerings of the big publishers which sell materials for students —the elementary and high school publishers and distributors, and there just isn't anything available worthwhile on the maritime history of this country, on our maritime traditions. We feel that if you want to avoid the necessity, fifteen or twenty years from now, of having to rally around the maritime flag and go after the legislators, now is the time to go after the prospective legislators and the prospective voters, today's students, to plant in their minds some sort of an understanding of this great maritime tradition and these imperatives of the ocean which will surely increase in the decades ahead. We feel that we have made a very significant stride forward in this regard without high school gift subscription programs. After about three years we now have 2500 members who have donated *Proceedings* subscriptions to their high schools, and if about twenty young people in each school, each month, browse through the *Proceedings*, we've picked up about 50,000 new young readers, and these subscriptions are increasing at the rate of about 600-700 a year. To those of you who have an opportunity to do this kind of thing, we urge you onward. The Institute is going to embark upon an elementary school project to develop something for our young people. What I would urge you gentlemen to consider, as a part of the mission of the oceanic society you might form tomorrow, is some kind of positive, concerted formal effort to crack this education barrier, to not capitulate in this field to the competition with other interests. Believe me, those who *are* concerned and who want to have our young people learn and grow up and come their way are doing something about it and they're doing it at both the elementary level and the high school level.

In closing, I'd like to cite a 1966 quotation from Beatty Thomas. He said that it appeared to him that the cornerstone of Soviet policy was

to place the Americans on the moon so that the Soviets could take control of the seas, and from what we've heard today, it appears that that policy is still in effect. It relates to the influence on young people. I think that probably in our public schools today the ratio of young men who want to go to the moon as compared to those who want to become oceanographers or sailors is probably about ten to one, and this is the kind of influence that I'm speaking about.

Prior to the return to our post-dinner brandy hour, we have a modest presentation to make. It's in the form of a poster of the Marine Corps *(Laughter)* emblem which appeared on our November cover and which we think is very attractive. (JOYE: Would you like *me* to hold it?) *(Laughter)* If General Simmons will step forward, we'd like to present this to him. (Simmon's picture is pasted within the emblem). *(Laughter)*

SIMMONS: Oh, my goodness. *(More laughter) (Applause)*

BOWLER: In recognition of the Institute's hundredth anniversary, with the percentage of Marine Corps officer-members being higher than that of our Naval officer members, we are proud to present this personalized emblem to General Simmons.

SIMMONS: Thank you. *(Applause)*

REYNOLDS: Thank you, Bud; we're honored. You know, until the 1850s Maine was, next to Massachusetts, the leading maritime state in this nation, and I don't know but that unless Harvard or maybe Yale pick up the ball again I sort of mourn for the study of maritime history. Maybe it will happen here if nowhere else. It's our high honor that we have the Naval Institute people celebrating their 100th anniversary here with us, and we're quite pleased to honor you.

Tomorrow's festivities will commence at 9:00 in Nutting Hall which is the Forestry building. It's probably the newest building on campus and the most beautiful certainly—all the woods and so forth—and we'll be running shuttles. Don't walk tomorrow, please—it's beautiful weather; we ordered it—but wait for us to pick you up; between 8:30 and 9:00 we'll run shuttles between the University Motor Inn and Nutting Hall, so until then I bid you a pleasant evening and I hope that the quiet doesn't keep you awake. *(Applause)*

The Russian Oceanic Threat—Real or Imagined?

Theodore Ropp, Moderator

ROPP: So our scenerio, Clark, calls first for a distribution of a series of charts on which our most distinguished guests are listed under numbers 8 and 13; these are their playing numbers. This one is 8 and Professor MccGwire is listed as 13; the deep significance of this will become apparent as the morning wears on.

REYNOLDS: May I, sir, introduce you? I'm sure everyone knows you, Theodore Ropp of Duke University who I guess knows Professor Herrick from years back at the Naval War College and does not know Professor MccGwire.

ROPP: We'll know him better after we hear him perform. *(Laughter)* Quite seriously, the subject this morning is, rather than "The Soviet Naval Threat: Real or Imagined" or "Romance or Reality" or "Realized or Unrealized", the subject is—I paraphrase Eugene Windchy—the title of his book, you know, is *Nobody Wanted War: Misperception in Viet Nam and Other Wars.* The subject is really not the Soviet threat but various perceptions of the Soviet naval strategy. And the reason why we have Professor Herrick's little chart of Western perceptions of Soviet naval policy and the strategy over the past five years is that this will give some focus to the discussion, not necessarily of a mystery wrapped in an enigma, but a mystery wrapped in an enigmatic pronouncement of the Sovietologist. We have two of the world's leading Soviet-(naval)-cologists here, Dr. Herrick and Professor MccGwire. Each of them will speak for 30 to as many minutes as the chairman will allow, which will not be many more than 30, and I think that Dr. MccGwire, that's Michael MccGwire, is going to speak first. We've changed the order here. Dr. Herrick will be next, and then we'll have a general discussion.

HERRICK: I was promised a minute's time to explain this chart before Prof. MccGwire gets the stage. My day was absolutely made riding down here when I innocently asked the man in the bus seat next to me what was on the program today and if it promised to be any good, and he looked at it and read it off, and he says, "Well, it could be good

if it's well prepared." My amusement was further heightened when I found out that the man is Mr. Cuthbertson, travelling companion of Prof. MccGwire. *(Laughter)* (MCCGWIRE: Brian knew that I got up at 6:00 to prepare it.) *(Laughter) (More laughter as Reynolds rescues MccGwire from his chair as it starts to collapse).* Hope we're not in for a let-down. This chart was prepared for a professorial seminar that Professor Brzezinski asked me for at Columbia; it was accompanied by another chart that I did for a period fifteen years earlier, and the interesting changes that over the fifteen years from all of the works extant being in the upper top half of the spectrum of the chart, as you see here. They are the people who believe that the Soviet Navy is a very serious threat, that it will build attack aircraft carriers and that they are trying for command of the sea. All the published writings fifteen years ago fell in that category. As you'll see here on this chart, number 5, Thomas Wolfe is the dividing line between those who believe that the Soviets have an offensive or command of the sea strategy as opposed to those who believe, as Prof. MccGwire and I do, that it's a sea denial, or very loosely and perhaps inadvisedly a defensive navy. It's interesting, too, I think, that all the people below the line either are in the academic field or are independent journalists, while the people above the line are associated with organizations or institutions with the Establishment generally and have a vested interest in portraying the Soviet Navy as a threat, for appropriations purposes among other things. If all the classified studies, I suppose, were available to the public I would imagine that a lot of them would fall in just right above Thomas Wolfe, number 5, although with many exceptions or at least with significant exceptions, but generally tending on the threat side certainly. It's also interesting that there has been something of a consensus develop in the last few years in the academic community as to the nature of the Soviet Naval threat, and I think in that regard Prof. MccGwire and I will be a fair representation in general but with some divergencies of the academic view. I think that's all I need to say on that.

MCCGWIRE: I don't know why Bob's put me down to number 13. What is significant of unlucky 13?

HERRICK: I have a long list of things I didn't say here, but actually all the people from Wolfe, number 5, down through 13 could be compressed into one item in order to give this balance. Missing all the classified studies, this spectrum has been misleadingly elongated on the lower end tremendously.

Western Perceptions of Soviet Naval Policy and Strategy Over Past Five Years
(1 July 1973)

Major Works Ordered From Maximum Threat Perception Down to Minimum	Long-Term Naval Policy Goal	Present Strategy	Future Strategy	Thinks CVAs Needed To Win a War	Expects USSR To Construct Attack Carriers?
1) Eller, E.M. *The Soviet Sea Challenge (1971)*	Supremacy	Control	Control	Yes	Yes
2) Polmar, Norman *Soviet Naval Power (1972)*	Supremacy	Control	Control	Yes	No
3) American Security Council for House Comm. On Armed Services *The Changing Strategic Naval Balance, USSR vs. U.S. (1968)*	Supremacy	Control	Control	Yes	Not Stated
4) Georgetown Center For Strategic Studies	Supremacy (Possibly)	Control	Control	Not Stated	Not Stated
5) Wolfe, T. W *Soviet Power and Europe 1945-1970 (1970)*	Not Yet Clear	Denial	Not Yet Clear	Yes	Not to be Excluded
6) Fairhall, David *Russia Looks at the Sea (1971)*	Containment (Probably)	Denial	Denial (Possibly Changing)	Yes	No
7) Howe, J. T. *Multicrises: Sea Power and Global Politics (1971)*	Containment	Denial	Denial (Probably)	Yes	No (Probably)
8) Herrick, R. W. *Soviet Naval Strategy (1968)*	Containment	Denial	Denial (Probably)	Yes	No (Probably)
9) Shadrin, Nicholas (Ph.D. Diss., GWU) *Development of Soviet Maritime Power (1972)*	Containment	Denial	Denial (Probably)	Yes	No, Never!
10) Kime, S. F. (Ph.D. Diss., Harvard) *Rise of Soviet Naval Power in Nuclear Age (1971)*	Containment	Denial	Denial	No	No, Never!
11) Breyer, Siegfried *Guide to the Soviet Navy (1970)*	Containment	Denial	Denial	Yes	No
12) Ericson, John *Soviet Military Policy (1971)*	Containment	Denial	Denial	Yes	Yes
13) MccGwire, Michael *The Soviet Navy in the Seventies (Forthcoming)*	Containment	Denial	Denial	Yes	Yes

Soviet Naval Developments

Michael MccGwire

I thought I'd start with this question of why there are these divergencies. There has grown up this tendency to speak of an offensive and a defensive school of analysis. In fact, this is a great danger because you say: "Right, there are some people who see it as a defensive and others as offensive; obviously there is a range of opinion," and you punt therefore plump for the middle. There is the "theater-tactical" level of assessment, in which you're concentrating on *our* vulnerabilities, on worst-case assumptions, and on what is most dangerous to the West. You're looking entirely at capabilities and ignoring intentions. Now this is entirely valid; this is the contingency planning approach and must be used by such people. There is also what I call the "politico-strategic" level of assessment in which you are trying to do something quite different, which is to unravel the main strands of Soviet policy. You end up looking for *their* vulnerabilities; you're looking for *their* requirements; you're going not just for their capabilities but their capabilities *in terms* of their requirements. Is there a surplus of capability over requirement? A disposable surplus which could be used?

And of course you are not just looking at intentions; you're looking at intentions and *interests*. And how are their interests served by doing different things? It is on the whole not very useful at that level, to think entirely in terms of, "What hurts me helps them." That is not at all self-evident, and you can see what we're gradually coming around to realize, that the whole thing is not just a zero-sum game. But I come back. *Both* of these things are necessary, *both* of these methods of assessment, and it reflects the difference between contingency planning and national policy formulation. At this conference we're essentially talking at the national policy level. But it is vital to keep this distinction in your mind and to realize that both are necessary. What tend to happen is that the distinction gets blurred, and people then take what is the worst-case-possible course of enemy action and transpose it into being the enemy's intentions. And for no other reason than that it is possible, and because it's what'll hurt us, and it becomes what he is most likely to do. And that's where you run into trouble.

You also have this very difficult problem of the balance between complacency and alarmism. That's a difficult balance to strike, and understandably, if you're fighting for funds, you will tend perhaps to paint the threat a little bit redder and badder. But I would argue that in terms of the West's national interest that the dangers of over-alarmism are greater than those of complacency. And we certainly have seen that demonstrated since 1967, as we have given the Russians diplomatic victory after victory, just by what we publish in the West. I'm quite certain that they have a special xerox machine in Moscow set apart to run off copies of certain publications that come out of certain places in Washington, including Congress, which they then give to their friends in the U.A.R. and places like that to show, "Yes, we are a big navy, we are important, and look who says so—the best, the most expert people in this field."

Now I'm going to quickly talk to you about the Soviet viewpoint. You'll notice that I do not ignore capabilities at all. In fact, I concentrate very strongly on capabilities, and the particular analytical approach I adopt is called "hardware analysis," to distinguish from "software analysis" which is basically analyzing what they say. But the key thing about the threat equation which I'm looking at is not the kind of equation you are brought up to look at at the tactical-theater level, where you are saying, "Capabilities vs. intentions—throw away intentions because they can change at that level" (and they *can* change), therefore you only worry about his capabilities. In other words, how many ships has he got, in that particular theater? What are his deployments on such and such a front? Instead, I'm looking at the higher level, and I'm looking at capabilities *and* requirements, and I'm concentrating very strongly on requirements. I'm also very interested in the interests. What is it in their interest to do? What is their interest in the use of the sea? And remember that naval strategy is about one thing only, and that is about the *use* of the sea—either using it for your own purposes or denying its use for other people's purposes.

I also think that it is terribly important that whatever you do when you're discussing a narrow subject like this is to put the whole thing into context. To discuss naval strategy or military strategy of any kind without putting it into the full context, both of the international environment and the internal domestic environment, means that you're going to run into serious trouble. I'd like to throw out some points which will help to put it into context, and I'll also bring out some of my conclusions. I invariably overrun, so that it's rather

useful to start off with the conclusions and at least you've got there, even if you have to chop short your story around about 1872, when you had meant to be up to 1972 by then. Remember a few things which will help get your mind into context about this Navy.

We were told yesterday, "The Bear had learnt to swim" . . . . In 1770, at the battle of Chesme, which was in the Mediterranean, the Baltic fleet wiped out the Turks and in that way helped towards the victory of the Third Russo-Turkish War. The Russians have *not* suddenly learnt about sea power. It is *not* a divine revelation bestowed on Nelson and Mahan, of which the Anglo-Americans were allowed to be the favored disciples. Sea power is applied common sense, and when you can afford it, or when your relative priorities allow you to acquire it, you do so; and on the whole the Russians have done so. 1798, 1806, 1827, 1833—all these times they were in the Med using sea power in the classical way. They are aware of this, and they talk about it. Remember that over the last two hundred years, they've been the second or third largest navy in the world, and in several of their battles they have shown themselves to be an extremely effective one. In others, they've been absolutely disastrous, but this of course is usually the result of neglect and other things like that, and they're not the only people who got themselves neglected. We had a little problem in the Medway; and I think the U.S.A. had a little problem up the Potomac at some stage.

There are also innovations: 1855 was the first time that explosive shells were used in battle, and wooden-walled ships were out of fashion thereafter. It was the Russians who used the shells. 1877-78, the first Torpedo War, the mass innovative use of torpedos. They were the first people to really develop mines. They were right in on submarines from the word "go." They have always been innovators. It is more than an accident of history—the decision in 1954-55 to apply cruise missiles to surface ships is a hundred years after the first use of shells in action in this way. On the other hand, they have been bad administrators, bad maintainers. And this has been one of their big problems, and I suspect it's still a problem today. And don't forget they have this terrible geographical handicap of four separate fleet areas. And whereas these four fleet areas *cannot* be reinforced (except to a limited extent now, through the waterways during certain periods of the year and only of certain size ships), their potential enemies have always been able to concentrate around the outside. This means that if you have got this problem of people coming into your home waters and arranging things against your interest, like the

British and the French were continually doing throughout the 19th century, you have three basic problems, and three basic solutions to do about those fleet areas. One of them is that you can exclude the potential enemy by grabbing the exits; the Turkish Straits, the Baltic Straits, Tsushima—things like that.

That, of course, is a preferred solution, and it is clear that it is a solution they are prepared to apply if or when general war breaks out in the Baltic and the Black. And from about '57 onwards they certainly saw themselves as able to do it in the Black. The second alternative is to deny those sea areas to other people, and this implies using a lot of submarines and things like that. In order words, you don't go for exclusion of command; you go for the denial. And the third option is that traditional approach of establishing command of the area. So they have three options, and in terms of their requirements you can look at it that way. Don't forget about relative facts. Remember that if you're faced by the *Wehrmacht* you'll probably pay more attention to your land defenses than you do to your sea defenses. Remember where your threats may lie. The largest Soviet fleet in 1937, they had the largest number of submarines in the Pacific, because that's where the ready-made threat was. The Japanese threat in 1932 was massive in that area—that's where they deployed; they had over 67 submarines out there by that stage.

The question of land-vs.-sea must always be a problem for them, because of this terrible habit people in Europe have had of walking into Russia when they haven't got anything better to do *(Laughter)* and so therefore you do have a sort of an ingrown worry about this particular problem, and therefore the Navy is going to get the sticky end at times. While still on the threat, let's notice the tremendous shift in 1961 of the U.S. from land and airbased systems to seabased strategic delivery systems. Writing in '67 the Russians—Gorshkov for example and others—said that at that stage one-third of the West's strategic delivery capability was seaborne, and that by 1970 this would rise to one-half.

Now let's look at the Eastern Mediterranean. No one thinks it unreasonable that the Russians should show a possessive interest in the Barents Sea. But Moscow lies mid-way between the Eastern Mediterranean and their Arctic waters. And whereas between Moscow and the Mediterranean, the whole country thickens up your industry and all the rest of it; north of Moscow it gets incredibly dull and dreary. And so therefore the Eastern Med is an area of strategic threat to them. Stretching it a bit, so is the Indian Ocean. The upper

end of the Arabian Sea happens to be the best place in the world from which to throw Poseidon if you want to cover both China and Russia from one area. This is not a thing that has missed their attention, particularly when from 1962 onwards the U.S. was negotiating to install a Very Low Frequency communications station at Northwest Cape in Australia. VLF has only one commendation: communication with submerged submarines. And of course you've got the other station at Asmara and negotiations for the Indian Ocean island dependencies with the British from '63 onwards, ending up today with the communication bases going in. So the Russians say, "Why are they doing that?"

Look at it from their point of view. Look at comparative building programs in the last twelve or thirteen years. If you are a Russian, you ask, "Now, am I threatened from the sea?" It is relevant that we in the West have built two to three times as many surface ships than they have in numbers, if you look at each of the main categories. It's very difficult of course to balance out ships, and the numbers game is very dangerous, and one shouldn't play it too much; but of course it's being played the whole time. So I'm going to throw some figures back into that particular game. We have built two to three times as many in each of the categories. If you take account of tonnage, combat capability and things like that, then the disparity between what the West has built compared to the Soviet Bloc is more like three to four times. In the West I include Japan, New Zealand and Australia, but I exclude Sweden, Spain and all the other countries who Russia could really take account of as her potential enemies. I also cancel out the two Chinas and the two Koreas. But that is quite a big building difference. Until 1968 the West was building more nuclear submarines per year, which is one of the reasons why the Russians are now building about sixteen or seventeen a year. We, of course, are building less, but the Poseidon program effectively takes up the equivalent of six boats a year, and the Poseidon is a completely new boat essentially in its capability. And finally when we're talking about massive buildups remember that we built more strike carriers between 1958 and 1970 than they build missile cruisers. Those are not comparable, but to the extent you put anything into the same brackets you put attack carriers and missile cruisers.

Switching slightly, let's remember merchant shipping, that something like 90% of the world tonnage is in OECD hands, i.e., the West's; *we* own the infrastructure of shipping which the Soviets require to ship their own goods if they're going to have any kinds of

options. They managed to carry 57% of their own trade in 1970; they may get up to 75% by 1980. But they're not in a position to dominate this particular field. And what is more, merchant shipping is an important hard currency earner for them; they *need* hard currency. And when we get worried about their fishing fleet, we should remember that 20% of their protein intake comes from fish. Their fishing fleet, I would argue, has more to do with their incompetence as collective farmers than with any great overriding strategic plan.

Now, what are the conditioning factors which have made them develop the way they have? Let's look at, quickly, the developments in naval warfare. First of all what the Russians call nuclear missile war—the peculiarities of it. The crucial thing about this is the ways in which devastating military force can be thrown at your homeland from distant sea areas; and if your job is to defend the homeland against attack from the sea you have a problem on your hands. The other thing about nuclear missile war is the very abrupt shift from peace to war, which requires you to be permanently deployed, carrying out what are essentially wartime tasks continually in peacetime; what you might call the deterrent game. And there's a third factor which is not so important in strategic terms, but it does affect how they may do things; and that is that missiles can be thrown both ways. Landbased systems can also be thrown against large naval formations and various other things. As I have said, they are radical thinkers in this field.

The second thing that's really new is the nuclear submarine, which as you know is a qualitatively new maritime weapon platform. It isn't just a souped-up submarine; it is a new weapon platform. This has opened up all sorts of options both for tactical application and strategic application which didn't exist before. They have thought a lot about it, and they went into the nuclear submarine business way, way back. Their decision was taken about '47/'48. They've been no laggards in this field.

And the third thing is the question of the cruise missile. Now the importance of the cruise missile is not so much the range from which you can attack another chap, although of course it does have effect. But the crucial thing is the effect on the size of hull; whereas in the old days you had to build your ship for the weapon system it would have to carry; and so, if you wanted a heavy punch you therefore had to put in a bloody great ship, and so there wasn't very much difference between the kinds of ships you had, whether they were for distant area or for close-in work. Nowadays you can build your hulls primar-

ily in relation to the environment you're going to operate in. If for instance you're going to operate in really close environments like the Baltic and the Black Sea you can have reasonably small hulls. You put these fantastic missiles on them, which give the picket boat the punch of a battleship. This has implications in terms of the cost which they incur in the allocation of shipbuilding resources—it puts a lesser demand—but of course it does also reduce flexibility. It means you're building rather more task-specific boats in that particular context.

This question of task-specific units is very important. You'll see in the period say '58 to '65, the ships were coming out then that were highly 'task-specific'; in other words, they were designed and built to do one particular job. This means that if the scenario changes—(it always has changed, you know; they've been galloping the whole time), they've continually got ships that are not the right kind, size and shape.

A quick switch from technology to doctrine, which is a conditioning factor. As far as they are concerned there is always the possibility of a world war. It is not the thing they want; they do not seek it, they wish to avoid it. Their overriding objective is to *avoid* war, but the possibility is always there. If it happens, world war will be a fight to the finish between two social systems; this is the way they see it. Now if you see it that way you don't think about just having a deterrent, and if it fails going home; you think about going on to the end. So this is one of the things you're putting into your requirements; the capability not only to deter nuclear war, but if it happens, to fight and win it.

Another thing I think you ought to be aware of is that *we* tend to think of continuity in theories. Clark, yesterday, was sort of giving us a broad sweep of history, of sea power and things like that. I think Gorshkov thinks like Clark does. I think some other people do. But I'm not sure that the political leaders see it quite that way. I think that in the Soviet Union they have deliberately gone for *dis*continuities in theory. They don't allow the theory to run right the way through, living largely on hindsight. They're continually trying to reformulate. I think this is important. It means that a lot of their thought processes and terminologies, their concepts are different to ours. We've got to be careful even when they use the same words like "balanced fleet" and "command of the sea." What they mean is not what we mean or think we mean by those terms. We have to be even more careful when we start using the strategic theoretical terms which have grown up on deterrence theory and start applying those to Russia. There's very little indication that they have gone through the same thought

processes, this highly rarified academic-based theoretical structure of deterrent theory. We must not assume that they think that way. It's rather like shark repellents. Did anybody tell the sharks? It's the same thing here. Do they see deterrent theory in the same way we do? I think there's considerable doubt about that.

When we look at their requirements I think it is useful to look at their requirements in two basic blocks. The first one is what I would call general war related tasks, in other words this problem of deterring war and fighting it if it comes. The general war related tasks I would say they build for; that is what their requirements come in for. The second group of tasks are what one would call their protection of state interests. This is a thing that has grown up in the last eight, ten years, and I'm not saying it hasn't existed before, but this is the kind of thing you can do in peace time. It does not mean that you may not use force, but it is a different body of requirements. One of the arguments probably going on at the moment is whether or not you should build for that too. This is a crucial question: should you build for the protection of state interests tasks?

As a group basically made up of historians, you may be interested in how we reach the conclusions we reach. The method I use is 'requirements testing' and 'requirements forecasting.' In other words, I try and work out what it is that they have needed or should need or could need and see whether or not it matches up with what they build, do and have in the way of hardware. The first thing you've got to do is to establish what they have done and then try and find out *why* they have done it. This seems blindingly obvious. You want to look at the composition and the characteristics of their fleet, the operation, employment, deployment of their units, the pattern of warship building and their public pronouncements. Now, I know this is obvious, but I say it because time and time again people do not take all these factors into account. They look at a selection of what happens to suit them, and you'll find particularly in academia that there is a considerable amount of close analysis done of what they *say*, without actually putting it into the framework of what they've *got* and so on. So you'll get tremendous discussion of bureaucratic politics, on the basis, say, of the Sakhalovski series, three editions of a book called *Strategy*, a very official sort of book which changed in each edition slightly. You can argue that change comes from infighting within the bureaucracy. But if you put these changes against the ships they actually had, you'll find a number of changes relate to the changes in capabilities, the changes either they actually

had at the time of writing or the changes they could foresee at the time of the writing. You've got to look at the whole picture.

One of the things which is the most important is this question of shipbuilding. Shipbuilding is important because it represents substantial allocation of national resources. If you decide to build something, a certain program, submarines or anything like that, you are making a decision at the very top level. This decision is going to be argued out with all the other interests in the community who are competing with you for scarce resources. Therefore it is not a light-hearted decision. What is more important, you are able quite often to date these decisions. In other words, you don't suddenly look surprised in 1962 when a *Kynda* comes off the stocks and say, 'my goodness, how terrifying.' You go back to when the decision was made in '54 and say, 'why did they make this decision?' And one of the things you find out is that when the first *Kynda* was commissioned, at the commissioning ceremony Khrushchev said to the people there, "super ship—floating coffin!" He was dead right, because the plans had changed by then and the *Kynda* is a cancelled class. They were going to build twelve, and they only built four. But we see *Kyndas* and we exclaim, "What super shipbuilders!" Knowing which classes were cancelled helps you to assess their capabilities. Twenty three of the new classes the Soviets projected in 1945—by that I mean a projected 20-year postwar rebuilding program—of those twenty three, fifteen of them surface and eight submarine, only five of the earlier surface programs kept to schedule. By the middle fifties all programs had been radically altered, and the replacement programs that came in didn't do all that much better. As I said, the *Kynda* was a cancelled class. The *Kresta* class successor has been amended twice in its design to meet changing requirements. The *Moscow*, built for one task and being used for another and instead of running to a full program was chopped off at two units. The E-II class of missile armed submarine was very much an interim solution when they shifted resources from strategic delivery to countering the carrier.

This question of deployment and employment is important, too. You want to know both why they've got their ships and how they're using them. That's obvious. But it's also important where they're keeping them in the first place. Look at the deployment of their fleets in the early fifties: Baltic and Black, big concentrations. They don't start moving up to the North until about '57 when they shift the concentrations. This is a clear reflection of where they see the threat. Also, you want to know how many ships they actually have out.

When we're told about them dominating the Indian Ocean, you analyze in detail what they've got deployed. (My analysis only goes up to the end of '71). You find out that they've managed to keep on station, end to end for permanently deployed: one *Kotlin* class destroyer which had to stay out five months, was probably virtually useless after the first one and a half months, plus one escort submarine and a T-58 submarine rescue ship, an Alligator. There's fifty million square miles of hogwash out there; you don't do much dominating with that force *(Laughter)*, particularly remembering that the French keep five ships out there, and the Americans have got ships in the Persian Gulf. I'm not saying, 'ignore these things'; I'm saying, 'get them into perspective', 'get your facts right.'

The next thing, the most important thing we come onto is, "Why did they do things?" And this is where you come into your requirements testing. I argue that you can start from the assumption that the security of the homeland is the core of any country's national policy. It is the irreducible core. Now, if you start from there, put on your Kremlin planner's hat, go and sit at your desk in the Ministry of Defense in Moscow like some of us have sat in other ministries of defense, either in Norfolk, Virginia or in London, and then start thinking the problem through in common sense terms and you will find that you come up with some fairly simple answers. You first of all look for what the other side has got, and you look at your four fleet areas and so forth and so on. I think it is generally agreed that between 1945 and '65 the pattern of the Soviet Navy in all respects, the type of ships they built, and the deployment, task-specific design of the ships is such that it can only be explained away in terms of a reaction to a very self-evident threat. If you were sitting in the Kremlin, you saw, particularly if you were taking *Newsweek*, about every second week you had a map of Russia with Moscow in the middle and concentric circles running out from it, with various bases around the edge. From '64-'65 onward it gets more difficult. I don't deny that. It gets more difficult because the things that happened produced a situation where no longer can you say there can be only one answer to the evidence you've got in front of you. But you still do have the past trend which is relevant, and you do still have their building programs; are they reallocating resources from one type of building to another type of building, and so forth.

The crucial element in understanding *why* is to get at their decision periods. When was a certain policy decision made? I'm not going to go into a lot of caveats about bureaucratic politics and all this sort of

thing. Let me just make some assertions. That essentially, in the case of shipbuilding, you'll probably find that they are making decisions roughly eight to ten years ahead of ships coming out. Take, for example, the whole bunch of ships which started coming out in '62; those you can date back to the '54 decision period.

For deployments of any extended nature, the decision period for deployment probably goes back two years. I don't mean rushing out to the Gulf of Tonkin because the Americans are mining Hanoi; I mean a proper deployment where you're going to start getting somewhere, like the Indian Ocean where the first indicator was in '67 and where the decision was probably made in '65, and it had very little to do with the British in '68 deciding to pull out of the Indian Ocean.

Statements quite often are two years ahead of the capability. When they say they can spread death and destruction around in a certain area, when you actually look at what they could do at that particular time you'll find they usually get the maximum value they can out of a future capability. You see it for example in '56-'57 they're talking about spreading death and destruction in submarines and then they fall silent because the classes that came out in '58-'59 turned out to be not very good, and there was sort of kind of a hush until '62-'63. When they started talking again; by then they'd retrofitted the H-class with the improved missile system. Now that gives you some idea.

I've still got another seven minutes, so I'm now going to give you twenty-five years of Russian Naval history. *(Laughter)* Now decision periods are terribly important in this sense: if we date the decision to move forward—they have moved forward, we know they've moved forward, we've seen them move forward—when was the decision taken, post or pre-Cuba for example? If it's post-Cuba you say, "Ah, there you are! They've learnt about sea power." And they will therefore do thus and so and therefore they deploy in the Mediterranean. If it's pre-Cuba it's quite different. You say, well why did they do it?

I'm going to raffle through the decision periods as I see it very, very short and sharp, but I can substantiate the statements I'm making. As I get into the present, one is getting more and more hypothetical and guessy because you're relying on what they say as opposed to what they've done, and basic rule one is: don't believe what they say in a vacuum. They very rarely lie, but you've got to put it up against a concrete frame of reference—things like deployment patterns, shipbuilding patterns and things like that; you've got to understand it. Okay, '43-'45, the end of the war, what was the main threat which

faced them? Remembering that their Marxist prognosis assumed that we would have to attack them at some particular stage, and remember that the Marxist prognosis had run very, very smoothly from 1917 to 1941: Britain had one million unemployed in 1940 after a year of war. You know, the whole thing had run perfectly; everyone was expecting a slump in the late forties, including the West. And of course when you had your slump, then the capitalists would turn to attack. The Soviets were faced by what they call the "traditional maritime powers": they had a nice land frontier, four-hundred mile cushion between them and the shortest part of Europe. But they were uncomfortably exposed on their maritime flanks. The Baltic flank exposes lines of military communications to their front line in the West and the Black Sea is a grenade in their gut. The last time we, the West, had played around in the Black Sea was between 1918 and 1921 when we were trying to push back the Revolution. But of course we've been in there continually; right through the 19th century. We were always getting into the Black Sea and saying: "Oh, no! Do it *my* way." Basically, they weren't very happy with the situation! The Black Sea offers other advantages. If you can get in there by sea (and we've just shown that in the West we could project continental scale armies by sea), you don't have that dreary tramp across that Western Russian plain with all those rivers in the way. *(Laughter)* You go straight up, and it is a very good way of reaching into the interior. Right? That was a real threat. I assert that, on the basis of their shipbuilding patterns, but also on two quite separate sources who were at the Frunze Naval Academy between 1945-47 where all their schemes were involved with anti-invasion, that the fact that to build to meet this threat they intend to build twelve hundred submarines made people think, naturally, that they are going to attack sea lines of communication. Yes certainly, but at a later phase of the war. If there is a war, they will redeploy their submarines, but this was not their original intention. Set two hundred of those submarines aside for strategic delivery because the Soviets saw submarines as a means of strategic delivery right from the very beginning. Then divide the remaining submarines by four (that's two hundred and fifty) and allow for operational availability (drop it down to a hundred and twenty five), then give yourself transit times and you find that that's none too much, if you've got that particular situation. So they built that kind of a fleet—anti-invasion.

1954—Stalin has died; defense review; let's make friends and influence people inside our country by switching to consumer goods.

How can we do it? How can we stop these metal eaters, the Navy, consuming all our stuff? By that stage submarine construction was about to rise to a hundred boats a year; it was also running at seventy-eight a year, and of course they were building cruisers and things like that. So they gamble on the long-range missile. Definitely a gamble which in fact didn't work. The C.-in-C. of the Navy resigns on this issue and they bring in Gorshkov to push it through. It's not Gorshkov's decision, but it's Gorshkov who's brought in to push it through. One missile, a three-hundred mile missile, allows you to control six hundred miles of sea; and the missile also carries a great big lump at the end, which if it's nuclear will of course take out a carrier, but even if it isn't nuclear, is an unpleasant thing to have hit a carrier. It means that you can dispense with a large number of ships; it gives you the equivalent of tactical mobility. They gambled on missiles, and by gambling on being able to operate within range of shorebased air cover, diesel submarines and relatively small surface ships can be your launch vehicles, plus of course the airplane; the airplane was in fact the only one of the three that succeeded. This means you can release resources to the consumer, and what you see is that of our thirteen cruiser ways, seven are turned over to commercial shipbuilding, and the other six have already been reallocated to nuclear submarine construction.

1957-58—they thought things were fine. Then things went all sour, because the bloody Americans had technologically outflanked them: here they were, sitting happily, thinking that they were going to engage the enemy as he came steaming in within range of shore based airover and then the A3D goes to sea, which means that the carrier can now launch a strategic strike against Russia. Right in to Moscow. The carrier is now a national defense problem. Therefore they have suddenly to do something about it. The surface ships they were building could not survive to launch their missiles. The J-class submarin which they were building, just a diesel, would not be able to get there in time: sail a carrier force from Norfolk, sail a J-class from Kola Inlet, sail a carrier with a P.I.M. of sixteen knots, and the carrier has launched its strike before the J-class gets within missile range. And, of course, the *Kynda* just goes straight to the bottom because there's four hundred mile range disadvantage under air attack. Furthermore, they found that the other types that they were building were not going to be able to cope with American defenses: this is the strategic delivery task thing. So there's a complete shift in programs at that stage too—major shift in '54, major shift in '57-'58. And in this

last shift, nuclear propulsion goes from the strategic delivery mission to defense against the carrier, and they go for an all submarine solution. Khrushchev talks about that, as Bob tells in his book: an all submarine solution.

By '61—and this came after Khrushchev's defense review in '60—by '61 they're not so happy about this. It's part I think of Malinovsky's amendment to the Khrushchev thing: the new policy comes in, which underlies the shift to forward defense. They've been drawn forward. They realized that it wasn't just the carrier, it was also Polaris. Originally people thought Polaris was a limited threat from the Arctic North. The Russians had been the first to enter the field of submarine launched ballistic missiles; the initial programs were authorized in the 1949/50 period. These classes were a great failure, and I think they originally read the limited capabilities of their H-Class SSBN into the Polaris program, and they were quite shattered when they saw what the U.S. Navy actually achieved. They then realized they had to get out and do something about this new threat, and so you've got the shift to forward defense. From '61 there was a big argument between the Navy and the political/military leadership, saying, "Look, we've got to have some more ships, some more surface ships. We can't just get out there and be completely exposed." And I think that battle was won about '63-'64 at which stage the leadership said, 'Okay, we'll let you have the *Kara* class" which is the cruiser class now coming out. And at that stage I think they also authorized completion of two units of the *Moscow* program. This was the original helicopter carrier program which had been designed for the anti-submarine role in the Barents Sea. They realized that they would have to go for something larger, with a bigger helicopter/aircraft capacity. The *Moscow* had been put into abeyance in 1961 while they worked out their requirements. So they completed two and then went for the *Kiev* class which is twice the size. *(Applause)*

ROPP: I think that—it's been suggested by one of our experts—we take a five minute rest and recuperation, to the break and the coffee machine. Then we will hear Professor Herrick. *(Applause. Intermission.)*

ROPP: Let me make a couple of announcements. As soon as our second speaker lets his cigar go out, we have been asked to observe the "no smoking" sign. *(Laughter)* A couple of people apparently do have problems. The rather interesting thing about our first speaker

was that he was able to make me completely forget not only that it was nine o'clock in the morning but that it was Sunday morning and that it was October. *(Laughter.)* It is now ten o'clock, approaching Columbus Day, and we have Dr. Herrick to give Number 8's view of Soviet naval strategy.

Soviet Naval Strategy

Robert W. Herrick

I have to correct Professor Ropp slightly. Like the bedraggled mechanic I always wanted to be a professor, but as yet I'm not one; I'm a professional analyst at the Center for Naval Analyses; a Ph.D. I do have. I want to exploit being up here to show you this, which is a book called *Soviet Naval Developments: Context and Capability*, edited by your dynamic speaker, Professor MccGwire, who, as you can imagine, has the initiative and energy to get a conference going which is going to be a standing thing on Soviet naval developments, held last year and will be held again next week for a week in Dalhousie in Nova Scotia where Mike is a professor of military—can we say —history? (ROPP: No) *(Laughter)* military strategy, and I commend this to you as historians as undoubtedly the only work in the field that really pulls together the serious efforts that people are making to understand the Soviet Navy, not only in itself, but in its broader foreign policy, military policy and economic affairs context. This is published by Her Majesty's Stationery Office in paperback, but will come out by Praeger shortly; it's already in galley. For $22.50, perhaps some libraries will be able to afford it. *(Laughter)* But I really do recommend it; it's chock full of worthwhile articles. Mike has sort of used a huge seabed vacuum scoop in getting everybody who might contribute anything to this field and ties up all their papers into this one volume every year, and I presume that this will be a continuing occurrence.

Admiral Hooper mentioned yesterday the need to avoid wishful thinking on what the Soviets are up to. I subscribe to that. I feel that they are a very definite challenge for the future, but I think as MccGwire pointed out here in this book, and more at length in the preface to this, it is important not to perceive the threat; if it's misperceived, we build the wrong kinds of ships, we give them gratuitous propaganda advantages which they can use, particularly with the Third World countries. What I'm going to do this morning is talk about Soviet naval strategy in general for a while and then its application to the North Atlantic, and then a few generalizations on what I think the future prospects are for the Soviet Navy.

Mike has already referred to their geographic problem of having four fleet areas. He didn't stress an even greater problem for the Russians today, and that is the fact that they have such limited access to the open oceans. We learned in the 1970 Okean world-wide exercises that the Soviets have a tactic which they call the 'break-out'. This is a tactic of getting their submarines, not only their nuclear missile submarines, but their attack submarines and the cruise missile submarines, out into the open oceans through the various fleet areas, through the geographic restrictions that can be barriered by U.S. and NATO naval forces. And it was interesting; the article by a Soviet writer describing this break-out tactic mentioned the great skill and even heroism that was required of their officers to carry out this tactic. I think we see here in the need for giving support, as they call it sometimes, or "combat stability" to the submarine force with their shore-based air forces since they have no fixed-wing carrier-based aircraft, and with their surface ships we see one of the great *raison d'etre* for having shore-based air and surface ships. This may sound like an exaggeration, but I'm convinced that it's not much of one at least.

The Soviets have—it's quite clear in their literature—at least they have had up until 1966 two defensive concepts, one for ASW which is a two-concentric-ring arrangement, logically enough, one just out to the range of shore-based air, which shore-based air could give fairly continuous or sustained operational coverage, perhaps a hundred and fifty miles; it doesn't matter very much even if it were twice that much. The fact is, it's limited to the range of shore-based air; I'm not talking about their Bears and Badgers flying down to Cuba, one-shot affairs or flights that can't be sustained. So anyway, it's in the order of a couple hundred miles. Then of course beyond the range of shore-based air ASW has to be conducted largely by submarines with some air support, but again very limited, largely submarine against submarine, anti-submarine warfare. More interesting is their regular defense arrangements, for again concentric zones, this time three of them. They have what they call their "Pre-coastal Zone" which again goes out to about a hundred and fifty miles, in which they can give continuing coverage to their surface operations. It's very important; of course you can't operate at sea in a combat situation if you don't have air support. If anything's been established *that* certainly has been by our experience in World War II. That's the pre-coastal zone. They have what they interestingly call the "Remote Off-shore Zone" which only goes out to three hundred miles. I think it's indicative that

they use this word "remote"; it's a hangover from not too many years ago when they were strictly coastal. And in this zone they can give some coverage with air, not continuous; they can't use their motor torpedo boats with missiles; they can't use their coastal artillery which they have missilized and still give a lot of time and spend a lot of money on. But they can use their destroyers, can use their submarines, of course, and some air. And then beyond that is what they call the "Open Sea Zone". In again using the word "sea" instead of "ocean", I think is indicative of their earlier more limited defensive concepts. Unfortunately, we didn't have a projector here; I'm passing around a transparency, a map of the Atlantic, on which I've shown two things, one are these defense zones, concentric zones, that I've shown and you can see how limited their coverage is compared to the expanse of the Atlantic. I suppose that one could say that the "Remote Off-shore Zone", the intermediate zone, could roughly include the Barents Sea, or rather the Norwegian Sea down to the GIUK line, the Greenland-Iceland-UK line.

The director of the Norwegian Foreign Policy Institute recently said that the Soviet intention is to expand their forces until they can exercise command of the sea in the Norwegian Sea. I think he's probably absolutely right on that. They haven't got that far yet, but they seem to be engaged in a constant, steady buildup. In 1966 Marshal Malinovsky in making his five-yearly report to the Party Congress dealt with all the services in turn, and then at the end he made a statement which could only have been calculated to attract Western interest and perhaps encourage the folks at home to go to bed and sleep peacefully. He said in effect that they felt much safer and more secure now that they had completed their "Blue Belt of Defense." In Russian, for those of you who speak Russian, it's *golovoy poyas oborony*, or, as I call it, the GPO for short. No one had ever heard this term before he mentioned it in his speech, and it did lead to a great flurry of press speculation as to what it was. The Soviets had just staged their first around-the-world underwater submerged submarine trip—quite a few years after our *Nautilus* of course—just to have something to show for the Congress, and so the speculation was at first that this had to do with submarines alone. Then people stopped and thought, well if they can stop and rest, if they can rest peacefully and secure, it must be an anti-missile ballistic missile defense system. I had occasion at the Center for Naval Analyses to study all the background for this, and I have a professional paper of which I have some copies here for any of you particularly interested, but it seems

to me most likely that the "Blue Belt of Defense" was for protection, a joint effort, not just by the Navy but by all the forces, the Army, the Long Range Air Force, the PVO air defense against sea-borne missile attack by either a Polaris-Poseiden or strike carriers. The last we heard about this concept interestingly was in 1970 when an East German correspondent went to Moscow and was present at the Naval Headquarters for the world-wide Okean exercises. He came back and he wrote that the exercises have shown that the Blue Belt of Defense is working.

I noticed with interest last night in reading the last part of Clark Reynolds' forthcoming book *Command of the Sea* that he made the point that about by 1970 both the United States and the Soviet Union had realized that ABM's weren't going to be effective enough to do a significant amount of damage limitation and the chances in effect for an ASW technological breakthrough that would make Polaris-Poseidon or the Soviet Yankee-class vulnerable were very slim indeed, so that both sides came down to what basically amounts to mutual deterrence and sort of gave up on the damage-limiting mission. Admiral Gorshkov in his series, in the last of these articles that he published in the Soviet journal *Naval Digest* from February '72 through February of '73: in the last one he used an expression that may have appeared once before—we're still trying to check it out: it may have appeared in 1970 or '71, but he talked about "the Strategic Counter Forces of Defense." In Russian again this is *stratigicheskiye sily oborony* or the SKO as I call it, to make it simple. It does appear that this may be—at least it appears to me—this may be a concept that they have come up with, realizing the hopelessness of doing a significant amount of damage limitation with the Blue Belt concept, that this SKO will supplement the GPO. A former Soviet naval officer, who is in Washington as a consultant for DIA and who was commander of a destroyer in the Baltic Fleet for four years before he defected in '59 and who I've known since that time, tells me that he doesn't think it's in the Russian mentality to give up completely, since they're so security conscious, almost an obsession, that they would not give up completely on the Blue Belt and the chance to actually have counter-force to try to sink our Polaris-Poseidon, if they can ever get the ASW equipment that could do it and the techniques. But he feels that the SKO is a supplement to that, at least for the time being until they can do something more on the ASW. At which point they could denounce the ABM treaty, under the international law theory that changed conditions can invalidate treaties. They've done

this before and would then be in a better position than they are at present. Now they have to 'grudgingly' rely on mutual assured destruction which they find a very unbearable situation in which they are exposed to destruction and can't guarantee their own security.

Now I'd like to say a few words on these supposed or so-called Soviet aircraft carriers that have been appearing. In reading Clark Reynolds' paper I noticed that he talked about the medium aircraft carriers that were coming out, and I rather take strong exception to this. Unless I'm terribly mistaken, what we see here are helicopter ships: the new *Kiev* class coming out is going to have some V/STOL to give them their own combat air patrol. But they're not going to be attack carriers in any sense of the word that I can see. This is my personal opinion; I've expressed it often. I have tried to consider the question very carefully. They certainly couldn't stand up against a strike carrier in any kind of combat. And interestingly enough there was a report in the newspaper, saying that it was from official sources in which a Soviet naval attache in some Far Eastern station told the U.S. Naval attache with regard to this new *Kiev* class, as the press has called it, that the Navy had wanted to build six or perhaps eight of these, and the Party would only let them build two. Well, I was particularly interested to hear this because it had occurred to me that the pace of their development of carriers, rather than being rapid as Clark said in his paper, strikes me as being extremely slow and methodical, and I get the distinct impression that with the *Moscow*, *Leningrad* and now with two more of this *Kiev* type, that they're building these for operational testing until or unless they get the equipment that they need, the techniques they need to do something effective in ASW.

And finally on the general part of Soviet naval strategy I'd like to say something about Gorshkov's advocacy of a much larger navy which is what I interpret his series of eleven articles to be, although there's a debate raging on this. Professor McGwire and myself and another analyst at the Center for Naval Analyses and also this former Soviet naval officer all did independent analyses of the Gorshkov papers, and our conclusions are not unanimous. Jamie McConnell, a fine historian at the Center trained under Gerald T. Robinson at Columbia, which will mean a lot to any of you who know about Russian historians, feels very strongly that Gorshkov is announcing changes that have already been approved, and we're addressing ourselves now to digging into this and trying to see if we can find any evidence to support or deny either of our cases here. But, at any rate,

this series that appeared in *Morskoi Sbornik* says in an editorial preface that it's intended to develop a unity of views among officers as to the fundamental principles of naval roles and missions under different historical conditions. The entire series, not surprisingly considering the author's profession and position as commander-in-chief, paints a glowing panorama of the vast potential of sea power for the Soviet Union. He does this of course through historical analogies, which are only disguised in pretty much the way we've come to know the thin veneer they put on these things; they refer to Western powers or other foreign powers in a way that one can tell that appliction to their own situation is intended. At the end of the series he puts that pretense aside and talks about the Soviet Navy itself.

I think to Mike and I, there's only one way to read this series—as advocacy of a much larger navy. However, I still have an open mind on this and want to try to put the series more into context before I come up with my final opinion. The method I think might be interesting. The way he does this is by arguing the superiority of the navy in various circumstances, in the nuclear age—the invulnerability of the SSBN: the fact as Engels said, it's the only way to project political power in peacetime—at sea; and by arguing the navy's superiority over other services in carrying out various missions. As in the United States and I guess England, the inter-service rivalry over the budget is carried out pretty much by seeing who gets what missions, and then once the Navy gets a mission assigned through theoretical arguments, then of course the money is allocated for building the ships for that mission. I had the idea, and I'm not at all disabused with it yet, that one of the things at least that Gorshkov was doing in his series was fighting a very strong and vigorous rear-guard action against some not inconsequential factions in the military, particularly among the marshals and in the Party too, perhaps only in the Central Committee, but perhaps also in the Politburo who have been urging, judging from the way Gorshkov reacts, that the navy, if one is even needed at all, and there seems to be some question about that; if it can't be done with strategic missiles that can hit carriers at sea now, so they claim, that at least they shouldn't spend as much money as they've been spending lately, and they shouldn't be deployed so widely, that both these are unnecessarily wasteful of money that presumably should be spent on the strategic missile forces and the ground forces. Well, that's enough for the general part of it.

Now just a very brief application to the North Atlantic; this is very short and sweet. I think the Norwegian and North Seas constitute the

areas of concentration in the Atlantic, as I indicated earlier, in which they're trying to expand. I think that's the thrust of their naval strategy. It's certainly not one to build transatlantic amphibious forces that can carry out the part of Soviet doctrine that Marshal Sakhalovski's three editions of *Military Strategy* in '62, '63, and '68 said that you can't win a war unless you can invade the land and occupy it. We see no signs of them developing the forces that could go across the Atlantic, and they're still very much preoccupied with the threat that our carriers and our Polaris-Poseidon pose to them. I think on that chart that you have, I like Thomas Wolfe's position number 5 there very much. I think it's a logical position to take at this point of time; he says, it's too early to tell what they're going to do when they figure they've taken care of their defensive needs. I heard him argue this at a Brookings seminar on national security recently in which the Navy representative gave the traditional threat picture, and then Tom Wolfe got up and said, "But don't forget the possibility of historical discontinuities." *(Laughter)* And it was a marvelous and very apropos comment and one I'll never forget.

Now the Soviet perception of the threat from the North Atlantic: I had an article here that is revealing. I'll give you the reference if any of you want to look it up: it's been translated in the Foreign Broadcast Information Service, an article by a Soviet Colonel called the "Arctic and NATO Plans." It appeared in *Sovetskiy Voin* which means *Soviet Soldier*, number 13, of July '73. On pages 46-47 it talks about the far-flung system of diverse military bases in the Arctic regions, strong points on the Danish Island of Greenland, in Iceland, Northern Canada, Alaska and the Aleutian Islands. It says, "In recent years an extremely dangerous element has entered into the system of measures being employed by the United States Naval command in connection with mastering the Arctic waters. The fact of the matter is that the American missile-carrying nuclear submarines of the 14th Squadron are constantly carrying out patrols in the Norwegian sea and in North-Eastern Atlantic Ocean." And it talks about American missile-carrying submarines penetrating under the ice, about our exercises and says within NATO particular importance is attached to the naval bases located in northern Norway. We've seen in the Soviet exercises scenarios in which they obviously were going to take our bases in northern Norway to deny their use to us. But the pattern of their exercises has been almost uniformly defensive. It would be hard for anyone under any circumstances I think to interpret them as anything else. The general scenario as they go down out through the

GIUK line is: intercept our carrier task strike forces coming up to the Norwegian sea, fight with them and eventually go back to their home waters and defend against an amphibious landing. It says here, "In recent years the NATO mobile forces have been carrying out large scale exercises, the 'Express' series." You remember we've had these "Strong Express" exercises in northern Norway, airlifting ground forces, airborne units and tactical aviation elements in the U.S.A., Canada and European countries into northern Norway. And it says, "The rulers of the Pentagon are experiencing great difficulty in carrying out their military preparations in the Arctic regions based upon the false claim of a threat from the North," and so on.

I was going to say a few words on their ASW training in Cuba and naval strategy, but that's peripheral; I'll just say a few words on future prospects. I make the assumptions for my comments here that there will be no ASW breakthrough; Admiral Martell told me that having spent thirteen billions on it ourselves, that it's almost ruled out that they're going to come up with anything, although they're probably still spending enormous amounts on ASW research and development. And I also assume that Gorshkov will not have his way if I interpret him correctly and that the Soviet party will not approve a vast shipbuilding program to give him everything he needs to put *Kiev*-class task forces all over the ocean wherever Polaris-Poseidon can operate in order to do some effective damage limitation against Polaris-Poseidon. Their economy certainly isn't in the shape to do anything like that. But I see in the long term a further gradual increase of Soviet capabilities to command the Norwegian and North seas, the Baltic approaches as part of a world-wide effort to gradually extend the areas in which they can exercise positive command of the sea, meaning they can use it for their own purposes such as ASW or shipping, coastal shipping or so on, and outside of that, outside in the open ocean zone, the third zone, just to try to deny us use of the seas, by use of their submarine warfare. Thank you. *(Applause)*

Discussion

ROPP: I think the job of the ringmaster here is to attempt to summarize the issues for discussion of two really excellent papers which can be described as the difference between a geyser and a rather quiet flowing brook *(Laughter)* and . . . . As it shapes up though, from what we heard yesterday morning and the comments and many references to our host Professor Reynolds, it isn't really one of the lion-versus-

Christian confrontations, but it reminds me really of the kinds of things which people were talking about in my youth in the twenties and thirties, or the blue water-versus-the continental school of British strategy. One of the things which I asked both our experts last night, and to which they gave very unsatisfactory replies, was the question of why in this very interesting chart, from 1 to 13, the options for future strategy or present strategy, were between control and denial. Because, there was a third stage which one might call—and this is relevant, I think, to Miss Joye's remarks, and some of the other remarks at this conference—there is a third stage which one can call territorialization of the sea or localization. This was again a concept very much in evidence in the 1930s, particularly in the Italian and German and Japanese navies, an *il Nostro mare* concept which assumed that there was a stage in which, not that the command of the sea was in doubt but when it in fact happened that the Japanese had local command for utilization let's say of a certain area, and we had local command in a certain other area. I'd like to open our discussion by asking whether or not the concept which they have under denial there is not extended under Admiral Gorshkov to local utilization or territorialization or whatever third phrase you gentlemen can agree on yourselves. Or is this simply a concept of naval strategists in the thirties which is no longer valid?

HERRICK: As I replied I thought eminently satisfactorally to Professor Ropp last night *(Laughter)*, although Miss Joye arrived in the middle of it; that may have distracted his attention. (ROPP: It distracted you, not me.) *(Laughter)*. (MCCGWIRE: My gracious! *amid laughter)* This chart as labeled is the Western perception or misperception of it, which is black and white, either-or, it's sea denial or sea control. As I thought I brought out in my presentation the Soviets have in effect a territorialization, a situation here with their zones of defense concept, as I said right at the end, within it sea control, withoutside only sea denial. Is that question rhetorical? (ROPP: Yes, it is rhetorical.)

(Question from the floor)

ROPP: Let me repeat the question for those who didn't hear it. To what extent does the Soviet naval strategy have peacetime use in showing flags and that kind of thing?

MCCGWIRE: Well, this matter of 'Prestige and Influence' is a thing they mind about, but the prime question is. "What is the utility of using naval power as an instrument of the policy in this particular way?" I personally feel that this is one of the arguments that is going

on inside Russia at the moment. I think that in '65, '66, when they found themselves lumbered with having to build quite a lot of expensive ships, at that stage they said, "All right let's maximize the benefits we're getting from it," and they adopted a slightly more assertive policy which wasn't exactly showing the flag, but it was making the Americans know for example that the seas were not an extension of national territory, that the Soviets also had rights there. But after '67 and the immoderate reaction of the West to the events during the Arab/Israeli War, you know, the fact that the Soviets happened to have some ships in the Mediterranean at that particular time—they started playing on this, and you see a big increase in the political use of their ships. But of course, for various reasons, they did get some use. There's the situation off West Africa called the Guinea patrol. And they need to have access to base facilities in Syria and Egypt for instance. But I think that by about '69, '70 people may well have been saying, "Is this in fact making more friends and bringing more political benefits than costs?" It's not self-evident that old fashioned gunboat diplomacy is going to do good, because showing the flag in the old days was very much related to your having a colonial infrastructure ashore. You were to a large extent supporting the representatives of the metropolitan power. That's being a little bit extreme, but I think that's the way it worked to a great extent.
(Question from the floor.)
MCCGWIRE: Assuming that warships make friends. You have merchant ships who can also go in, who have smartly uniformed sailors who do not get drunk ashore either. If you can put a warship in there for a cocktail party or a children's party, you can also put it in to beat the hell out of them at a later date. They certainly do make flag-showing visits. But to take the Indian Ocean, if you look at the pattern of their visits there, initially in 1968/69 they went everywhere, and they looked in at something like fifteen different places in the first year, but then look at the last twelve months. All their visits are concentated in the Somalia/Aden area. In other words an area in which they wish to build up their capabilities in a certain way; their deployments are usually more specific, I think. I don't deny showing the flag, but the question is: Is it of sufficient importance to warrant allocating resources to build ships in order to be able to do it?
HERRICK: First, I think you perhaps have an exaggerated opinion of how much these states are divided between pro-Russian and Chinese. I think they're pro-nationalists largely and are looking after their own interests, and either side aren't going to get any great footholds.

particularly since the Egyptian fiasco. It's interesting I think that in the Department of Defense and the International Security Affairs Section there's a professor named Timberlake who is looking very closely now at the diminishing utility of repeated ship visits to foreign ports.

(Brief loss of transcript due to tape change here.)

REYNOLDS: Commander Herrick and I have to clear up some odds and ends because I don't want it to appear that I disagree with him. Hell, my chapter is based on his fine book, *Soviet Naval Strategy* of 1968—which we want to plug also. On this question Professor Ropp raises about localization or territorialization—I think you two are talking about the same things, but maybe in different languages.

ROPP: Yes, I just wanted to bring that out. I think in a sense that you've explained a very logical and consistent policy of territorialization and use up to a point; in other words, the zone-force concept beyond that denial....

REYNOLDS: But the zone-force only within the geographic seas contiguous to actual Soviet territory which I think also means territorialization. Because your allusion to what I've said in my manuscript about the medium carrier *Kiev*—I meant medium-size, to me, a 45,000-ton carrier, which is what the original *Midway* class was some thirty years ago. But I think that carriers in fact all work beyond these territorial zones of influence, or whatever you want to call it, but real carriers are just beyond the defensive stance of the Soviet naval strategy. So I have to clear up my prose before I go to press.

HERRICK: I think it's tremendously misleading to even use the term aircraft carrier with regard to these things. I wish we'd use the term LPH-landing platform helicopters—as we do in the U. S. Navy—and avoid all the confusion and connotations that aircraft carriers have of projecting power ashore.

(Question and comment from Hooper.)

ROPP: Let me remind you—I don't want to get into the position of defending our panel who need no defenders, but I think that both our speakers made clear that this chart was not intended really to be a .... It's a summary in a way of the recently published materials, or about to be published unclassified materials. I think Dr. Herrick did state for the record that if one were to use the classified materials that then there would be a much heavier .... the line would actually fall about in the middle and while it may perhaps show a difference in approach between the assessment community on the academic side and on the

military side, at the same time, the balance would be better; I think Professor McGwire made that clear. Professor McGwire also says, "I want to add something on the territorial sea concept." Now you can perhaps answer both of these questions.

MCGWIRE: Yes. To pick up your question first, I think that if you are given thirty minutes to describe something as big as this, and you are aware of certain types of attitudes which have already been expressed in this group, as for example yesterday—and you know the group has got certain general feelings or prejudices—then you're obviously going to concentrate on saying, "But have you looked at it this way?" Now what I have said so far is not my final balanced answer. Remember, I had to break off at 1961. I didn't, for instance, have time to describe to you how I perceive their contemporary requirements, how I perceived what happened after '65 and so forth. I did try and show certain of the constraints, certain of the stresses they work with. I absolutely agree: one's got to be terribly careful about going too far one way; it's a very, very carefully balanced thing. Both Bob and I are on record to this effect time and again, except people just ignore that part of what we write and take the bits that they happen to want to argue against. We've always said, whatever else you can say about the Soviet navy, it's a most uncomfortable thing to have around; it has operated against our interests time and time again. However, the point we wanted to get out was that whereas in the West we have a tendency to think that naval force is inherently useful and must have payoffs, I'm suggesting that in Russia there is a big argument about this. And although they have been using naval power since '67 increasingly, I still think there's been a debate about this. I'm certain there are some people who think absolutely that it's the best thing since cooked Sunday dinners. But there are other people who are saying that this is not the best way to do things.

To go back to the territorial sea, I was merely going to pick up this thing that you had. They have got this concept, as you know probably, of closed seas and territorial seas; in 1922 they tried to make the Baltic into a closed sea, which would, in other words, only belong to the chaps around the edge—this is *Mare Clausum*, a well-known legal device. They'd like to see the Balck Sea that way. They would also like, I think in a way, to see the Mediterranean made that. If you can't push everybody else away, it's better to have a neutral zone than to have somebody else operating in it. This is particularly so if you're not going to find it very easy to dominate such waters. Have a look at what they've gone for. They've persistently gone for the Baltic to be a

closed sea. The Black sea, they just treat as a closed sea, sort of a natural assumption. The Mediterranean—they have applied for it to be a non-nuclear zone; also the Indian Ocean they've applied to be a non-nuclear zone. In other words they want to push out their maritime frontiers, but they'll accept neutralization as opposed to actually owning it.

(Inaudible comment and question from the audience.)

HERRICK: It's probably true as you suggested that it would have been appropriate for me to have had some statement of Soviet grand strategy at the foreign policy-making level. Perhaps belatedly I can just mention that Marshall Shulman has pointed out very well in his latest article in *Foreign Affairs* that it is one of a long-term policy of containment in the sense that we generally use containment and I think implicit in what I said is the fact that their strategy for now is defensive and sea denial. You recall that I did state that I like Thomas Wolfe's position best, and if you look at the chart if you have one, Wolfe took the position that their strategy now is one of sea denial, that it's not yet clear what their long term naval policy aims will be, and it's not to be excluded that they will build strike carriers. That is the concensus I think of the academic community.

MCCGWIRE: The other thing you say you think they're going to build. We'll say we just don't know. But on the evidence available to us at this moment of building programs, in other words the evidence which throws you ten years ahead, they are *not* building up a large navy of the type you think: they have not reallocated shipyards from merchant ship construction to warship construction. The big increase in shipyard capacity has been merchant shipping. They've only built one new warship yard. If we see this shift from merchant to warship, then, sure, we know they're building up their Navy. But they've first got to provide the capability in order to do the things you say they want to do. We all accept that the Russians have the goals, which you are saying is an adversary relationship, trying to change the balance of advantage in their favor. But the question is, "Which instruments do they see useful?" *That's* what the argument's about.

HERRICK: I think it's true, that as far as doing what we hope to do to spread what we've learned from our studies on what Soviet naval strategy is, that we were somewhat constrained by the topic, "the North Atlantic Strategic Pivot." I think that's the reason, Admiral, that we didn't talk much about the peacetime uses of it; it's hard to fit that into the strategic pivot picture.

HOOPER: When I was talking of political goals, it was that navies don't exist just as ends in themselves. Just talking about defensive aspects is not adequate. I admitted that they do want to defend their homeland. But I raise questions as to their other political goals that they are trying to achieve, including aggressive goals. And I would agree that if they can achieve them—and the great gains in Southeast Asia for instance were actually made at the conference table—if they can achieve things without fighting, this is good.

HERRICK: My real field is not the Soviet Navy; it's Soviet foreign policy, and I do feel that the Soviets are firmly committed to this peaceful coexistence long-term policy and that it's inconceivable to me that they are going to get involved in military confrontations with us in the coming years. As to the point on using containment here, I think that's a particularly good one. You notice I use as naval strategy that of sea denial and then there's the long term naval policy goal of containment. I had used "defensive" strategy in my book *Soviet Naval Strategy*, but my friend Nicholas Shadrin, the Soviet naval officer, after some discussion persuaded me that since their classically defensive strategy involves "active" tactical operations that the term containment would be better. It is really sort of a reverse containment in the sense we're used to using it but for the lack of a better one there it is. As far as there being no one here to represent the sea-supremacy/command-of-the-sea-viewpoint, I'm reminded of a story I heard about my invitation to address Prof. Brzezinski's seminar. He was approached by Professor Smolansky of Lehigh, who was there at Columbia working for a year, that I might be someone to bring up to talk, and Brzezinski's reply was, "I don't want to hear the Navy line," and Smolansky assured him he wouldn't get that, so he let me come. I think everybody knows what the threat picture is; we've read it for twenty years now, and this conference was an effort to bring out the other side of the picture.

(Question from West)

HERRICK: I would say this is part of the overall struggle for the influence in the Third World rather than any efforts to get naval bases—to me that's quite clear as a matter of fact.

(Speaker from the audience again.)

(Comment from West.)

ROPP: Dare I turn Professor McGwire loose? *(Laughter.)*

MCCGWIRE: No, no, let him finish first. I'm going to wipe him out in one burst.

(Question from West.)
ROPP: As I say, I'm unleashing Professor McGwire. I will not be responsible for this. *(Laughter.)*
MCCGWIRE: It may help if I do answer your question more specifically in a broader way. First of all, what are the Soviet missions and tasks? Take as your initial assumption that their main mission, which they had way, way back and always had, was "defense of the homeland against attack from seaborne directions." You'll find that by 1970 they'd gotten themselves five tasks under this basic mission. . . (Incidentally, people who think this buildup since '45 is something new—that was the fourth twenty-year building program in the previous sixty-five years; it wasn't anything particularly new. They just always ran into bad luck with the previous ones, like wars or some such thing.) There are five tasks: the two traditional ones, by now the two least important ones, are 'To establish command of the fleet areas,' Baltic, Black—specifically, that's one. The second one is 'To provide flank support for the Army'—and in particular to grab the exits. Then the three new tasks. 'To deploy your own strategic delivery capability.' Now that one was picked up in about '47 when they started building submarines as a strategic delivery vehicle; initially using the submarine torpedo as a delivery system, then going to missiles, then going to nuclear submarines. And then we have the two countering tasks—and this is what I think this phrase of 'The Strategic Counterforce of Defense' means long before we ever got this Russian term; we coined the expression, 'posing a permanent counter'—where first of all you have got to counter the carriers and second of all you've got to counter Polaris. So in other words there are five tasks: counter the carriers and counter Polaris which Sakhalovski says are rated priority one; strategic delivery, which is a separate task, but comes under this basic Strategic Rocket Force task; and then the two local fleet area ones. Now, within your existing capacity, do you then build for other tasks, the peacetime ones, as well?

Now to your specific questions. Your first question was; why did they build so many submarines? Well, they started off to build 1200, although in fact they stopped at about 560. Roughly 200 of those 1200 were strategic delivery units for interdiction, etc.: they were in fact going to build 180—that's the sort of number you require to maintain sufficient submarines on station off the American coastline, they would have had to have something like 180 to keep about 20 on station. Surprising? (WEST: It doesn't surprise me, but it's not

realistic. It's patently not realistic: we claim to be able to do the job in 41 Polaris or with ten more Tridents.) I'm sorry, we are talking about 1945 diesel submarines and torpedoes. Okay, this is the kind of thing. Everyone is so fancy nowadays; now, unless you can fire sixteen missiles from under forty feet of ice and spread death and destruction over a whole country, it isn't a deterrent. *(Laughter)* If you can put two torpedoes with a nuclear warhead into Chesapeake Bay, that is extremely unpleasant, and when you have no other option, when you're faced by an atomic monopoly in 1945, you surely look for ways out; and they traditionally have. And as you said . . . (WEST: That's a way out, that's a cheap way out. Go ahead.) Okay, as I argued, those W's and R Class, the medium type submarines, were for area defense: you say submarines are not defensive. In fact, in the First World War, that was the way the British saw them, trapping barriers outside Heligoland Bight and things like that. (WEST comment.) Obviously, in a tactical sense they have to fire something finally, but they can be used strategically in a defensive mode or in an attacking mode, depending on how you deploy them. If they care to scatter them around their fleet areas, in closely patterned patrol areas, they provide a very effective form of area defense bases.

I think that they had to have bases because if you are threatened from the Eastern Mediterranean, for example, by the carriers and by the Polaris, you then have the problem of trying to counter that threat. You know that they went into Albania in '58 and they had a submarine base there. They lost it in '61, when the Albanians swiped four of the submarines, and, you know, the Soviets just got the others away in time. The initial basing there was to allow them to deploy interposition forces on this side of the Dardanelles, so that at the outbreak of war they would be able to seize the Dardanelles and prevent reinforcements coming in. Now, having lost the Albanian base in '61, they still had the problem of the strategic threat from the Eastern Mediterranean; they were unable to keep their ships on station throughout the year. Look at the buildup in deployment, '65, '66, '67; the most striking thing about '67 is the doubling of deployment as soon as they get access to Alexandria and Port Said. They need bases. A Western official in Moscow who was seeing Sergeev, who is the Chief of Staff of the Navy, sometime this summer asked him, 'What is your biggest problem' and he said, 'Bases.' How the hell do you keep these ships out there? Anybody in the Navy, operationally, knows this problem of bases. It really is a serious problem.

Choke points. Yes, the Gibraltar Straits, that is a choke point, and certainly in 1962 one of the shifts you see in the allocation of aid was from Indonesia (where it was a kind of 'let's stir up trouble by creating threats in other areas') back to the Mediterranean—both ends. Of course they have an interest in cutting off reinforcements into the mediterranean. But then you come down to the Red Sea and you say 'There's another choke point.' Geographically true, but how relevant in other ways? If you want to stop the oil flowing from the Persian Gulf, the simplest way to stop it . . . . Put it this way, one way that is not a good idea is to go around sinking super tankers because on top of everything else you bring the pollution lobby down on your back. *(Laughter)* The simplest way to stop oil flowing from that area, which they are directly adjacent to, is to pay everybody a year's income to turn those taps off, just like that! You say, I will pay you a year, just don't keep that stuff flowing. If you want to sink ships, if you're so stupid as to decide this is the way to do it, the place you sink them is somewhere around the Western Approaches to Europe. Somewhere off the Azores. You don't send ships to the farther most limit of the earth to attack them in just about the stupidest place you can find, where it's very, very difficult to maintain them there. You put them in somewhere where your transit times are lower.

ROPP: Now there's one question, he's going to make a comment, and then you've been asking your question from the beginning. You make the comment.

HERRICK: One of the most revealing passages in the whole Gorshkov series was a statement in which Gorshkov with absolutely unprecedented frankness said that faced with the threat of Polaris-poseidon primarily but also the carrier strike threat, 'we sat down and tried to find a way out'—he used the expression 'a way out', and I've seen that before in their literature in similar circumstances. This was just so unexpected that he would be so frank in this, and he said, 'and we came up with the Strategic Counterforces of Defense.' So it's clear that they're using the word counterforce in the Russian sense, the physics sense of an equal and counter reaction. It's not counterforce in the sense of Blue Belt which is true counterforce that goes out and tries to sink out carriers and Poseidon: it's a countervailing or offsetting force. I wanted to correct Mike because he insisted on interpreting the Strategic Counterforces Defense as being the Blue Belt, and these terms shouldn't be confused that way.

MCCGWIRE: I've never touched Blue Belt.

ROPP: This gentleman has had a question for an hour.

(Question from the audience.)

HERRICK: Let me answer that, instead of Mike, at least start with it. I think you have a very good point there. I think the difference between whether they have temporary base facilities or permanent bases is largely semantical. I think you could have very effectively cited the precedence of the Soviet presence in Albania with their submarines up to '61 to support this scenario that you're positing for using Sri Lanka (Ceylon). I wouldn't exclude that at all.

MCCGWIRE: But, you see, *you* say that they have a record for using force. Because I'd heard this so often; one of the papers we asked somebody to write for our seminar, we asked them to look into the record of the Soviets using force since 1917. You can get this paper. It's being published by Royal United Services Institute, in London, which is not a known pacifist organization. In this particular study by Ken Booth he comes up with an absolutely emphatic conclusion that the Soviets do not have a record of using force as an instrument of policy in this way. *(Comment from the audience.)* Okay, right, if you accept that you're not going on historical precedence and therefore the worst case is going to come up, that's a perfectly valid point of view. However, I think that means that you've got to discount a vast body of analysis of present actions, activities, behavior and so forth and so on, which points the other way; and you've got to also say to yourself, what do I do by putting that assumption into my policy formulation? Am I going to lose more by assuming that they're aggressive—in other words, worst case assumptions—than I could gain the other way around? So far, they have used force, or it seems that they perceive force, as a useful instrument to prevent us from preventing change. Does that makes sense? *We* have traditionally used force to stop the revolution happening. Now, I think that they definitely perceive force as a useful instrument, and this is certainly one that Gorshkov is arguing for, as a means of interposition, to keep us out of the way. But to turn to your bases in Ceylon. First of all, I don't know about a base in Ceylon. You say they are building one, or they will build one, eh? *(Comment from the floor)* Well, all my background is that they're not going to be allowed to build any kind of naval base there. But meanwhile a base is a base is a base. Mers-el-kebir was built by the French, but it doesn't do them much good now. Who builds the base isn't that important. I still think that if you were the First Sea Lord of the Russian Navy, you wouldn't really like to put a very large submarine force right down there which is terribly

difficult to support, to get at, when there's so many other ways of stopping the oil.

(Comment from Stokesbury.)

ROPP: Could I throw out just one thing which worried me before we came up, to which these gentlemen may have a practical answer? Taking the people at the top part of the spectrum, who are not here, who for budgetary purposes, as we've just seen, have been rattling their chains at every opportunity to assault the general taxpayer, in a period when after thirty years or so there has been an erosion of the threat and of the reaction to this threat mentality. If this annual rain dance now has about as much effect as my attempt to get the football team to come to class, how does this affect the added fact that the threat is not one that we can do much about? How does one get to the public after thirty years of this, let's say, massive miscalculation? Or of alleged massive miscalculations? The point of containment is to produce non-events. After thirty years of the non-events for which we must allege that they have motives to do so and so, terribly evil things, how does one then face the great practical problem for the school which wishes to emphasize this Soviet threat, of getting the public to react to it with cash, rather than a tired sort of yawn. This is the present tendency to react, and I think this is the problem for all naval policy makers right now. We've heard a great deal about these threats which have not, as Professor Stokesbury alleged, always materialized. The motives for these we are in no position to judge because we do not have Soviet documents. In effect, what effect would the kind of discussion we've been having this morning have on the general public other than to say here's a bunch of Sovietologists arguing in a very interesting fashion for passing Sunday morning. But what next?

MCCGWIRE: I think this is absolutely fundamental and why we really set up this Soviet naval studies group. What happened, in say '68, '69, was that what I will call the 'naval lobby' for short started getting very worried about the rundown of the U.S. Navy. Quite rightly so, and I was absolutely in agreement with their aims. But their approach was based on the assumptions that all politicians are stupid and that the latter can only see a threat if it's wrapped in a large red flag with hammers and sickles all over it. This 'naval lobby' produced papers which were so extreme that the other people who were not really concerned with the threat qua threat, but were concerned with "less money on defense, more money for welfare" type arguments, then, could easily shoot down this kind of claim; only recently,

starting last year, has the level of debate risen. I think that the paper that Admiral Zumwalt sent to Proxmire in June last year was one of the important ones. But by then a lot of his credibility had been destroyed, because originally he'd been supporting these extreme statements. When the debate came back to a more sophisticated middle ground, it was difficult for people to believe. I would argue that the first thing you've got to do is to get the Soviet threat in a perspective. Only then can the argument shift away from the Soviets and ask, "What does this mean for us?" and so forth—things like that. In other words, at that stage we can get away from talking about the Russians, and talk about naval power as an instrument of U.S. policy. Does that make sense?

HERRICK: This former Soviet naval officer, Nicholas Shadrin, makes the point that it's well known in Soviet Naval circles that Admiral Gorshkov through his wartime association with Brezhnev has free entree to him anytime that he wants to go up and talk about major policy decisions. This, plus the fact that Gorshkov has been in his present tenure now for going on two decades, certainly shows that he's in a strong position, perhaps analogous to that of J. Edgar Hoover before he left the FBI. However, I wouldn't think that Brezhnev, a man beset with tremendous internal problems, particularly agriculture and the stagnation of industry and the backwardness of technology, is automatically on a friendship basis going to shape Soviet national policy along the lines of building up a Navy equal to ours. Now you recall President Nixon has subscribed officially and in writing to the ardently-desired Soviet principle of equal security, and in the first two SALT talks we see it coming in the nuclear field. The Soviet writers in the Institute of the U.S.A. which has gotten a fairly rational understanding of U.S. policies now, although they decorate it with all the usual anti-imperialist phraseology, have in recent articles, since September and October last year, first called for parity in conventional naval forces, and then they've called for mutual force withdrawal of forward deployments to home waters. I think there's the thrust of their policy. I think when the time comes that they can get agreement on the limitation of aircraft carriers, if it's a low limitation, if it's not too expensive, I think they might build them just to reach parity in that field.

(Question from Joye.)

HERRICK: That's theoretically possible certainly. I would just say again that I see the long-term thrust as one of peaceful co-existence, one in which there's a feeling that because of the mutual destruction,

mutual deterrence aspect, that the wartime uses of military forces, conventional forces have been seriously degraded. A recent American assistant naval attache in Moscow named Steve Kime wrote a fascinating doctoral dissertation at Harvard on the Soviet Navy. It gives what I consider a brilliant theoretical construct, a model that we can use to test our hypotheses. The idea is simply that the Soviets have built against both ends, extreme ends, of the spectrum for deterrence in war fighting or for peacetime presence, but in the whole area of conventional war they've done almost nothing. He may be wrong on this, but it's something we're going to give a lot of thought to in the future.

(Question from the audience.)

ROPP: The question is—I think we've still got some time—what purpose is there to the Soviet Marines?

MCCGWIRE: They've always had this thing called the Naval Infantry. They did a tremendous job spearheading assaults during the war. After the war they were allowed to fall into disuse, and the Soviets started just taking up battalions or regiments from the Army. You will see one of the crucial indicators of amphibious capability in the landing craft programs; the landing ship programs are a straight line projection from '54 onwards. There aren't any radical changes in the number of landing ships they've had. The fact that in '63 we all became very much aware of the Naval Infantry resulted from two things I think: one was to do with the change in the Warsaw Pact, where they were in fact putting more emphasis on the individual Warsaw Pact countries defending themselves, meanwhile providing yourself with a rapid reinforcement capability which they bumped up in a very big way, both air and sea reinforcement; the other thing —and this they've written about—is the problem that they've found, that you've pulled these soldiers in, a motorized rifle regiment, but as your daily rate of advance increased up to a hundred kilometers a day, you found your amphibious hooks had to go so far that all the soldiers got sick and you then rediscovered that you have to have specialized troops for such operations. So what they did was, they took a certain number of regiments of these chaps and said, 'Right, your're now Naval Infantry, lucky you,' *(Laughter)* and because these poor bloody pongos didn't see it that way, they had to have their morale boosted in the open press. So you've seen a gradual build-up from say 8000 men to 15,000 men, divided up between four fleet areas. Have a look at the kind of things they do; they are basically used for attacking defended shores such as you find in the Baltic and Black sea exits. They

certainly have a small number of Naval Infantry aboard ships in the Indian Ocean and in the Mediterranean. They've done some landings in the Mediterranean, and one can always argue that if you have something, you use it. But it is nothing like the U.S. Marine Corps.

(Question from the audience.)

MCCGWIRE: No, I would say it's intended to support the flank. You know, to spearhead any kind of military operation on the flanks. But also to grab the Baltic and Black Sea exits, to swing around Arctic Norway. Grabbing the exits is probably the most important task.

ROPP: Dr. Lundeberg—we have probably one comment from a submariner here.

LUNDEBERG: I'm just thinking about Norway, and how do you see that, in terms of an indicator of perhaps an offensive threat of the Soviet Navy, if you receive indications that the Soviets through political pressure are attempting, to you might say, neutralize the enemy? Have you discovered or seen any indicators that there is a long range possibility that they will try that?

HERRICK: I mentioned briefly I think in passing that some of the Soviet exercises have been obviously aimed at capturing or neutralizing our bases in Norway. There was an excellent article—I think it was by a U.S. Navy Captain named Synhorst—in the *Naval Institute Proceedings* recently in which he made the point that although this sort of offensive doesn't seem like a great threat to us, it certainly does to the Norwegians, and it does exercise a tremendous pressure on them. You see from the statements of the Norwegian Prime Minister, he's trying to keep a very delicate balance now: he's not a fully committed member of NATO by any means.

MCCGWIRE: Are you suggesting that they might do this as a one-shot operation, or as part of general war?

(Lundeberg comment.)

MCCGWIRE: I think it entirely in their interests to take Norway and Turkey out of NATO if they can, but through political pressure. But I don't see it as being in their overall interests, if you take the whole balance, for them to do a seizure of Norway or even part of Norway, because I think what they would lose would be so much greater than what they could possibly gain.

LUNDEBERG: Not seizure in the military sense, but progressing to perhaps a conversion of Norway to a posture initially of the Swedish stance....

MCCGWIRE: Politically?

HERRICK: As you know, under the agreement there are these seven or eight airfields that were built with a lot of U.S. and NATO money there, but Norway has never allowed the stationing of NATO troops on their soil. They have preserved a delicate balance. I don't see any increase in Soviet pressure on them in that regard. Certainly the Soviet political effort is to divide NATO: they would use, I think, any means that came to hand that they thought they could get away with, to increase that pressure, but I haven't seen evidences of them having succeeded.

ROPP: Time for one more question—from the gentleman in the back of the room.

(Question from Kelly concerns percentage of fish, etc. that comes from off the American Eastern seaboard.)

MCCGWIRE: First, I don't know the answer to the first part of the question, and secondly, do they require to protect those ships against what? I mean, their expeditionary force fishing fleets go all over the world doing this vacuum sweep type of 'pulse' fishing, like they did on George's Bank. Where's the requirement for protection?

DOUGLAS: The protection is going to be required when there is going to be competition.

HERRICK: Admiral Gorshkov in his 1967 article in the February issue of *Morskoi Sbornik* made it very clear that he was defining protection of Soviet state interests in economic terms which certainly would have included the fishing. What is not clear is that he has sold this bill of goods to the Party, because if he does, of course that requires more forces, much more forces.

ROPP: Admiral, you may have the last word, sir.

HOOPER: You asked a question which has not been answered and in the assumptions that you made on that question, I felt that your interpretation of recent history of whether or not they've been a threat. . . .that it brought out the point that I think may be semantics, but I seem to disagree with you on the assumption, but I made a plea yesterday for historians to tackle this era since World War II, and you turn out more fine doctoral students and great historians in the maritime areas than anybody else, and I say you can do something about it.

ROPP: Wait till *the* book comes out.

HERRICK: Right there *(pointing to Reynolds) (Laughter).*

ROPP: This I think is a very serious question, Admiral. I wanted to come back to it precisely for that reason, because, as I say, there's always a question of when an historic event happens. But I think *the*

happening from the historical point of view, of containment, from the standpoint of policy, is that it has produced a series of non-events from which, particularly for the Russian side, motives are always impossible to determine by documentary evidence. Now the result has been an erosion of interest. I'm not speaking of the historian, but from the public's point of view. It's all right for us to talk to the threat, and how we perceive it. But there's a further step, and the answer to this I just don't know. So perhaps the most important policy problem is how we perceive various kinds of threats in a period in which, owing to the general success of containment, the United States is the last country in which peace can be seen to have broken out. Meanwhile, twenty years of peace has affected all our allies. I think we're absolutely foolish to ignore that. The result is that we have acute public image problems. I don't know the answer, Admiral, but I think that the judgments of historians, who have a very bad track record as policy advisers, as we both know, *(Laughter)* may help somewhat. *(Applause)*

A Proposal: North American Society for Oceanic History

REYNOLDS: The meeting will come to order! With a statement like that I think we may now assume we're a legally constituted body. Americans are exceedingly legalistic, I think. We do have written constitutions and by-laws and so forth and make fetishes out of them. So let's be British for awhile and simply constitute ourselves without writing anything down. I might start by saying that if everyone is probably wondering when the next meeting might be that they could attend or something like this, it will be on July 6-12, 1974, the International Commission for Maritime History, British Committee, 1974 Congress, held at the National Maritime Museum in London, and the theme will be 'Maritime Aspects of the American Revolution.' The reason of course I bring this up is not only the timeliness of the theme, but the fact that there *is* such a committee, that it is international, but that the British have a Congress for hosting such an event. We do not. There is no such thing on the North American continent, and I suppose the question facing us is, should there be such a vehicle? Should it be something that ought to associate itself with an international commission for maritime history, and/or should it involve the broader theme of the ocean, the sea, such as we have tried to present here this weekend? I think these are very real questions that were actually first brought up to me by Dr.Lundeberg and Dr. Lyman earlier in the spring, which was one of the reasons I think for this whole meeting.

So here we are, and I merely ask you—in a way—to decide whether you think this weekend was worth it, whether you would like to see it placed on a more formal basis, and if so how we ought to go about it and with of course the caveat and the word of caution really that there is a built-in prejudice nowadays against any new organization—which implies all sorts of new other things that might go along with it such as funding, more publications, more journals, this kind of thing. Proliferation, overorganizing and all that. Furthermore—and understandably so—are we, particularly those of us up here in the North woods, not young up-starts trying to move in on a field that has been dominated in certain areas of the country and by certain professionals since time began? Maybe that's where it ought to stay: on the same basis it's on now. Maybe what we're doing is premature, maybe it's too little and too late, maybe it's wasted energy.

In any case, we have two speakers who have a much longer history of thinking about this idea and trying to do something about it over the years than I certainly have. The first of these is Dr. Philip Lundeberg, Curator of Naval History, Division of Naval History in the National Museum, smithsonian Institution, with whom I had the privilege of being a museum aid intern many years ago and who is also a one-time product of the North Carolina region. (This is a stacked deck for North Carolina at this meeting, I should warn you). So I will simply turn over the floor to Dr. Lundeberg and see what he has to say on the subject.

Philip K. Lundeberg

Thank you, Clark. The circumstances in which the idea of an association for oceanic history has approached the stage of serious and deliberate consideration in North America are complex indeed, perhaps beyond the grasp of any individual participant in this second Seminar in Maritime and Regional Studies convened by the University of Maine. Indications of the need for such an interdisciplinary and international association abound, I believe—the quality and breadth of the sessions of this Seminar are an immediate manifestation of this fact—and, with the long debilitated state of maritime enterprise on this continent looming as a massive backdrop to our discussion, I would make bold to open with several observations that will doubtless reflect the perspective of a museum-based historian. In conclusion, I would take a brief overview of where our maritime interests lie today, as seen in terms of the existing structure of international scholarly and cultural organizations that currently flourish under the aegis of UNESCO.

During the past four decades, maritime studies have been stimulated to a notable degree by museum programs and resources both here and overseas. The fruitful relationship between the Peabody Museum of Salem and those researchers who have sustained the *American Neptune* so effectively over the years has been a reflection of the same happy phenomenon evident across the Atlantic in that stimulus provided by the collections and curatorial expertise found at the National Maritime Museum at Greenwich to the distinguished contributions regularly appearing in *The Mariner's Mirror*. This latter relationship has been further strengthened by the remarkable lectures and symposia annually sponsored at the Greenwich institution by the Society for Nautical Research, events which have received increas-

ing support from leading British universities and, on occasion, from the United States cultural attache in London. North American participation in these significant scholarly and cultural events was strikingly demonstrated just one year ago, when the National Maritime Museum hosted the First International Congress of Maritime Museums[1], in joint and happy collaboration with the Marine Historical Association of Mystic Seaport, another exceptionally fruitful center of maritime research on this side of the Atlantic.

The Greenwich Congress of 1972, which highlighted recent developments in Northern Europe in the inter-related areas of marine archaeology and maritime ethnology, was especially memorable, revealing as it did, during extended discussions on the nature of that museum association's membership, a strong desire on the part of non-museum based maritime specialists to become affiliated with that new international organization in at least an associate status, recognizing that its regular membership was to be institutional rather than that of individuals. These two forms of membership have subsequently been incorporated in the recently adopted constitution of the International Congress of Maritime Museums. If one adds to this developing situation the impending colloquy of the International Commission of Maritime History, scheduled to be held at Greenwich in July 1974 on the timely theme, "Maritime Aspects of the American Revolution," it becomes unmistakable that a rather dynamic development in maritime studies is currently afoot, particularly in Great Britain and Scandinavia, owing in no small measure to the stimulating influence of scholarly colloquia on themes reflecting a substantially broadened definition of maritime history.

No less broadly conceived has been the perception of oceanic studies revealed in the emerging academic programs offered in several North American universities, notably here at the University of Maine, at Dalhousie University and at the University of Delaware. Generated in no small part to stimulate research that might contribute constructively to the economic and cultural development of the Atlantic provinces, these programs hold the promise of redirecting national attention to the problems and opportunities lying on our Eastern sea frontiers, similar maritime studies centers may, I believe, be anticipated on our South Atlantic, Gulf and North Pacific coasts during the coming decade, portending the emergence of some professional association representing their common interests. It is at this juncture in the evolution of such institutions, I believe, that we must seriously consider a basic question: whether our museum and univer-

sity programs in oceanic history—to mention two of the most obvious bases of maritime research—should follow separate lines of development, or whether, in the interest of maximum intellectual interaction, such as we have enjoyed here at Orono, they should be unified, on a deliberately international footing, in North America. Archivists, marine archaeologists, historians of our sea services, oceanographers, representatives of both management and labor in our maritime industries, as well as museum curators and university professors will, one may predict, benefit substantially from the creation of such an interdisciplinary meeting ground. In such a development I would foresee no serious conflict of interest with the well-established programs of the United States Naval Institute, the Naval Historical Foundation, the Society for the History of Discoveries, the Nautical Research Guild or indeed of the several associations of friends of our individual maritime museums. Rather I would anticipate a mutually beneficial interaction, similar to that evident in the cooperative scholarly undertakings that have occurred lately at Greenwich.

The proposal before us today envisages an association of individuals rather than of institutions, one that would hold periodic scholarly meetings, perhaps biennially, in alternation with the naval history seminar and convened at a stimulating range of locations on both sides of the border. Further, it envisages an association with a general secretary and an institutional base of operations, as well as a newsletter that provides timely coverage of recent and forthcoming developments in oceanic history studies *on an international basis*. Let me emphasize the importance of a world-wide perspective. If we are to derive maximum benefit from such an association, its purview must extend far beyond this continent. We all stand very much in need of illuminating comparisons between our own maritime experience in North America and those of other centers of maritime activity overseas. Whether from the university, museum, business or government community, we will all benefit from the broader perspectives inherent in a North American Society for Oceanic History. For these reasons I would move the adoption of the following resolution and heartily commend it to you for your most serious consideration:

> Resolved, that a committee broadly representative of the several disciplines that study the history of the sea be appointed to deliberate on the desirability and possible methods of establishing a North American association of oceanic historians and to report to all interested parties no later than April 1974.

Permit me, in conclusion, to outline briefly the existing situation in those two pertinent segments of the structure of international organizations sponsored by UNESCO. In the museum realm, unified on a world-wide basis by the International Council of Museums (ICOM), we have now emerging the International Congress of Maritime Museums, previously mentioned, which like the International Association of Museums of Arms and Military History, is essentially an association of institutions, represented at its triennial conferences by designated individuals. In the realm of professional historians, under the aegis of the International Committee of Historical Sciences (CISH), we have the International Commission of Maritime History, whose President is Professor Michel Mollat of the Sorbonne. Like the International Commission of Military History and the International Commission for the History of World War II (again to cite but two of more than a score of constituent commissions), the International Commission of Maritime History is essentially an association of individual historians, loosely associated as national delegations at each major conference. Whereas there exists a United States Commission of Military History, and indeed a comparable Canadian Commission, there is no United States commission of maritime history. Ultimately, a North American Society for Oceanic History should constitute an important regional associate of the International Commission of Maritime History, combining in its membership historians based both in museums and the university community. In the realm of oceanic history, I believe we have much to lose by following a purely national model.

(Applause)

REYNOLDS: Legally, any resolution like this one must have a second, so I would assume that our next speaker will provide that, in this loaded deck. Our next speaker is Dr. John Lyman who is that unusual combination of a professional oceanographer from the University of North Carolina at Chapel Hill (which is down the road from Duke if you're wondering) and a maritime historian to boot. And actually, I hadn't met him until Dr. Lundeberg grabbed me over cocktails in the Superintendent's quarters at the Naval Academy last spring and said, "We've got to get organized." John walked by, we grabbed him, and that's how it all started. Of course I should add that that conference at the Naval Academy will apparently be repeated every two years now, funds holding out; it also I think indicates the very real interest that's developing in North America for these kinds of studies, in this case naval history and affairs which of course is

central with any kind of organization like this. So without further ado, Dr. Lyman.

John Lyman

Thank you, Clark. I was glad to see Phil put this organization chart of international science and culture on the blackboard because I came up through the scientific end of the thing here *(indicating)* and this reminds me that there's something that could be pointed out. The International Council of Scientific Unions, which after the creation of UNESCO affiliated with that body, has as one of its member unions the International Union of Geodesy and Geophysics. This was the organization that a decade and a half ago conceived the International Geophysical Year, and the International Geophysical Year in turn led to Sputnik, and I think you all know what that led to in the United States. So it's worth pointing out that these international get-togethers aren't merely ways for people to meet old friends in foreign countries and wrangle a vacation trip overseas. There is an international infrastructure in science and culture that can accomplish things and can be of considerable significance.

I'd like to, in seconding this resolution, talk from the point of view of the consumer of oceanic history. We've been hearing for the last two days from the producers of history, but let's turn around for a minute and consider who the consumers are. The first group of consumers, of course, is the group of academic historians—one man's research results are the next man's data. The historians are not only of history in the usual sense, but the historians of technology, the historians of economics and the historians of science are all interested in one aspect or another of oceanic history, because ships are certainly splendid examples of man's skill in technology, and at the same time, except for warships, they are usually built with some economic purpose. Another group of consumers is the archivists from whom we've heard. A third group is the museum curators. Another group are the military and naval historians as contrasted to the academic historians, and this includes such specialized groups as weapons historians. The evolution of the naval sword and the naval gun are things that are fascinating to some people. We have another group of consumers: the students of sea power, such as those we heard from this morning. Then there are naval architects; I needn't go any further than to mention Chapelle and Bill Baker and Tom Gillmer as examples of naval architects who are deeply interested in the historical

aspects of their profession. Likewise, professional navigators are interested in the history of charting and the history and development of navigation instruments and methods. We have the underwater archeologists who are making tremendous contributions now to maritime history, but in turn they depend on the research results obtained by other people and are great consumers of oceanic history. We have the yachting and cruising types who like to read about their predecessors. We have people concerned with managing national parks and other public recreation areas on the seashore. Many of these areas involve famous shipwrecks, or they are the sites of former shipyards or shipping activity, and these people find themselves interested in oceanic history. We have some old men like myself who went to sea in their youth and are interested in the historical development of what was once their profession, whether in the merchant marine or the navy. We have persons descended from shipbuilders, from sea captains or from ship owners who have a family or perhaps genealogical interest in maritime history. Finally down at the bottom of the pyramid, forming perhaps the most numerous group—the group where I would put myself—are the armchair sailors, people who simply like to read about the ocean, who collect books on the ocean, and for whom organizations like the Naval Institute and Roger Taylor's publishing company annually produce vast quantities of publications. I might add that the prices of these, both second-hand and new, seem to be increasing exponentially.

It is from this widely diverse group of consumers of oceanic history then that I would expect to draw the membership of a society of oceanic history. As Phil mentioned, the society would be composed of individuals, not of organizations, and these groups that I've specified would supply the members. There are already a number of organizations existing in North America. There used to be the Maritime Research Society of Salem which I think was only a front for a book-publishing operation, but it nevertheless has impressed people in Europe with the importance of an American Society. There's the Nautical Research Guild, already mentioned, which appeals primarily to shipmodelers and which has survived for a couple of decades. There's a Steamship Historical Society of America which has been going now I guess for three decades, but its scope is limited to powered vessels, and we sailing types have to look elsewhere for a complete exposition of our interests.

Then there are a number of regional groups. There's the Maritime Research Society of San Diego, which has been instrumental in

restoring the old bark *Star of India* in San Diego. There's the San Francisco Maritime Museum which has restored the ship *Balclutha* in San Francisco and which has inspired the park service of the State of California to acquire and restore several other historic ships. There's a Puget Sound Maritime Historical Society in Seattle. On this side there's the Bath Maritime Museum and the associated Marine Research Society of Bath. Then there's Mystic Seaport, which is a membership organization as well as a museum. There's the Peabody Museum Associates. There's South Street Seaport. But all of these have a regional appeal, or in the case of the Steamship Historical Society a narrower appeal than the whole field of oceanic history. This is why I feel that something broader than any of these existing organizations is called for at this time.

And I'd like to mention another reason why I think something like this is needed on an international or continental basis, going back to the point of view of protecting the consumer—namely, quality assurance. Some of the books that I save my pennies for and buy I grumble at a little because I say, 'Why didn't the publisher exert a little more care and show the manuscript to a couple of people who might have prevented the author from making foolish mistakes?' I think this is something that's inherent in the publishing business. The proceedings of the meeting two years ago have the economics cited by Roger Taylor which shows you how expensive it would be for a publisher to attempt to hire expertise beyond that of an author's own. But nevertheless, the public is entitled to a fair shake in the quality control of maritime history, oceanic history, and here I think is an area in which a continental organization could do a lot of good. One thing that comes to mind is the *Constellation* fiasco. I'm not thinking so much about the use of forged documents to attempt to present the history of the ship in an unusual way, as I am in the deplorable manner in which Chapelle's bureaucracy treated him when he tried to point out what was going on. I think a national or continental society would see to it that this sort of thing would not be repeated. Another example comes to mind. Recently on the coast somewhere south of Hatteras, a storm unearthed a wreck of a wooden ship. Actually it was nothing but the bottom timbers. It was gravely reported though that since the ship was pointed at both ends it must be either a Viking ship or a Revolutionary War gunboat, because no other ships within the knowledge of the beholder were pointed at both ends. A little available expertise would very soon straighten out this sort of thing. Also such things as the National Archives turning itself into a records disposal

service—a voice from a community of people concerned with oceanic records could see to it that the National Archives mends its ways. So it's with great pleasure then that I second the motion. *(Applause.)*
REYNOLDS: Thank you, John. The floor is now open for discussion. Procedurally, what I think this leads to is a voting on the resolution, and if it passes we go forward and constitute our committee, and then it selects its own chairman and then we worry about things like secretaries and all that. I don't even have a copy of the program in front of me, I'm so loose by now. *(Remark from the audience.)* I think we'd be a congenial group. Let's throw it open to you. I'm not directing anything—let's have your feedback, and please, be frank.
(Comment from audience.)
Permanently you mean; it should not concentrate permanently in one center. Anyone care to speak to that subject? Phil.
(Comment from Lundeberg.)
Maybe be in one place for a few years, and then move around. I guess a lot of this would also depend on the kind of administrative hierarchy you'd set up. Would you have a central repository for the paperwork, somebody who could spend time and energy and collect the monies and so forth, for awhile maybe in one place? I think this is something that has to be decided, but Orono, Maine is not necessarily the center.
(Comment by Ropp.)
Of course, you heard from President Neville who's been on station now for a month; when Bill McAndrew and I invited him to speak here, he launched into a ten-point program where he's going to turn the New England-Atlantic Provinces-Quebec Center into the regional model of the way a regional program ought to be, and I think he is the kind of person who is very amenable to this, but he's still an unknown quantity. But all I can say is, Ted, that I don't know. I think it took about ten minutes to raise the money for this conference, just by calling up the right vice presidents; it's the kind of thing that maybe the larger and older established universities wouldn't waste their time on, but it's the very kind of thing that someplace like Maine or Delaware or Mystic or New Brunswick or Dalhousie would in fact be ideal for, and I think in this racket now of looking for a gimmick where you can put your money into something unique, I think Maine is very receptive to it, as, for an example, just by dealing with these people. Already one of the individuals at this meeting has offered to find the money to pay for the publication of these proceedings; we didn't even have to look for that, so this is a good sign. That would be my offhand response.

(Discussion within audience about hosting organizations.)
So here we have *the* goverment museum, *the* government naval academy, maybe, just for examples . . . . Here's three expressions of interest from the United States government. This is interesting; in the day of cutbacks, there might be money for this kind of thing which to me is encouraging, by the way.
HOOD: In organizing something like this with other organizations of similar nature already being founded, is there duplication, do you see, anywhere along the line? In other words, with money already going into certain administrations running similar type organizations, are we not possibly putting more money into one other administration for gathering, who have perhaps already been covered under different aegises, or what have you?
REYNOLDS: I think what we have to decide and differentiate is, first the resolution calls for the creation of, we're using the term continental, international, Canada, North America, United States, North American Society. Now what this society would do, of course, I think this committee, if I may speak to the resolution, would have to undertake the leg work and find out exactly what it wants to do. I think most apparently everyone seems to assume that we do like to have excuses for vacations, and driving from Chapel Hill to Orono is one good way, and that meetings would be associated with it. But in looking at the-chicken-or-the-egg, I think the organization would come first, then perhaps its sponsorship of meetings or a newsletter, and/or an organization that maybe would participate in international congresses and so forth and seek funding. Or maybe implied in your question also, do we just go on having these kind of meetings anyway? It's fun to put them together; I'm about shot right now, although I probably don't look like it. But it's terribly haphazard, and I've heard a lot of good ideas as to maybe what we should have done here or should do the next time, if there is a next time. But it really comes out of two or three of our minds and little else, and we really feel I think that we ought to do something more permanent and share it. That would be my response to that. Of course, duplication exists—as has been pointed out by both speakers—in specialization, and I know this is the one thing about this conference. . . . I apologize again to all the speakers, in particular those who felt constrained by time limitations; trying to keep down to fifteen minutes was a Herculean effort on your part, and I thank you for trying to do it. But the keynote here has been generalization, to share specialization, specialized knowledge with other laymen really, but we do have this common interest of

the sea, and I have a feeling we've all learned a great deal which we never knew before, if for no other reason than we heard Judy Joye. So I think generalization is the key, and I just don't see any duplication at all in the general sphere. If I can respond as chairman *pro tem* of this session, I don't think there is duplication. But would someone speak from the other point of view perhaps. Again the Christians and the lions: we've stacked the deck, I'm afraid, because those who weren't interested in this aren't here.

(Baker talking about other groups starting out.)

REYNOLDS: And who can know what government monies might come this way—like over the bicentennial? General Simmons this minute is I think down at Fort George in Castine seeing where the Marine Corps failed or succeeded, I forget what he said yesterday, to win the American Revolution—our one landing here was a fiasco in 1779. He's down there now, but the point is the bicentennial is coming up, and this is precisely the kind of thing where I know for the State of Maine, there's money here; we have it, for the bicentennial celebration, and we're trying to find ways to use it. Which is the way the government operates.

(Comment from Lundeberg.)

REYNOLDS: Yes, I imagine our foreign image—you're saying—is pretty weak.

(Lundeberg speaking of the 1975 historical congress in San Francisco.)

REYNOLDS: I don't know, I think also some connection with conventions lately; since there has been a great profusion of specialized groups, organizations, they've begun to bog down some of the national meetings with joint meetings, so the law's being laid down; they will stagger them every other year because there are so many.

ROPP: At the same time, Clark, in connection with the American Military Institute and the Society for the History of Technology, while it's the aim of the Council of the AHA to stagger these meetings, one joint meeting, one other aspect that's come up is that by staggering such meetings—let's say having a joint meeting with the AMI only once every two or three years—this opens the way to a joint meeting with other groups in the off years. In other words, the aim of the Council as I understand it was not to discourage but partly to keep the organizations playing a part, but only partly; it was also to encourage fields which for some reason or another, such as this field, was to encourage them to get organized and if they did to get a place on the AHA program, and also to have more meetings at the regional level.

In other words, I would think for example that this group could have a joint meeting with the Southern Historical sometime. But the aim was not entirely to close off proliferation of such organizations, but partly to encourage it. Phil conducted the negotiations.

LUNDEBERG; I think this is true, and there's another aspect to this. I think that the AHA has somewhat consciously been encouraging the groups to have their own organizational meetings; you might say to stand a bit more on their own feet and not lean heavily for their meetings or the joint meeting with the AHA. I think there may be somewhat of a general pattern of decentralization, with the object of having more intimate groups that are generally interested in soaking up the expertise such as we've had here and not just meeting as they do with the American Historical Association.

REYNOLDS: This of course was the whole *raison d'etre* of our first meeting two years ago—the frustration that you can't get, there's no vehicle for getting together maritime, oceanic historians with the big AHA simply because there's no vehicle for it; so let's do our own thing anyway in a maritime center like this one, and it worked then and apparently it's worked again, and sooner or later perhaps we ought to do something about it, and then we could, as you say. Ted, go to the national organizations and work something out. Cy Hamlin.

HAMLIN: I wonder if there's any opposition to this.

REYNOLDS: Oh, you mean here?

HAMLIN: Right now, and if there is none, I move the question, and then perhaps we can pick up the specifics.

REYNOLDS: The question has been called for. If I hear no objection, we'll vote immediately on the main proposal. Moving the question requires a second, but I feel the concensus here is that we're ready to vote on the main motion. I hear no objection; we will vote on the main proposal, which I think you have in front of you. Does anyone desire a secret ballot? *(Laughter)* I don't want to intimidate ayes or nays—we're very, very proper this day and age. All right, all those in favor please signify by raising their right hand. *(It is done).* I think we have a majority, but all those opposed. Someone's observed the absurd notion of calling for abstentions, which, by definition, is a contradiction of terms: I will not call for abstentions. I would say it's unanimous, except for abstentions. The proposal carries of those of us gathered here, so I think as chairman *pro tem* let me now call for the establishment of a committee, and I would say first of all, again if you have no objection, that it should be constituted from those of us in attendance here today, if only to get the dialogue going; there's

nothing implied as this being a steering committee, or a permanent executive committee or anything else; it's merely to study the proposal.

KIRK: I move that a steering committee consisting of Clark Reynolds, Phil Lundeberg and John Lyman be constituted to take the next step toward preparing an organization.

REYNOLDS: Do I hear a second?

LUNDEBERG: I second it. I think it might be desirable to have a slightly larger committee, perhaps double that number, recognizing the difficulty of people communicating and getting together.

KIRK: The sense behind the motion, Phil, was that a small group —you three—probably know the composition of this whole group much better than anyone else. You can branch out and add to your committee if necessary, so that you will have a more efficient type of group.

REYNOLDS: This sounds so rigged *(Laughter)* that it's even more rigged than the rig we had set up *(Laughter)*; that's why Professor Kirk has taken us off guard; I had my crib list here. If I may speak to that, and sort of surrender the chair, unofficially, I think, Neville, you're correct. But what I think we want to do is get a certain commitment from maybe, say, double the number—from people outside of our immediate mutual interest; for instance, at least one Canadian, a token Canadian *(Laughter)*, at least one, someone in, say, industry, someone in archives or archeology . . . .

KIRK: I would be happy to amend my motion to add a second provision that the committee be allowed to second to the committee such individuals as they think will be necessary to facilitate their operations and achieve their objective.

(Motion seconded.)

(Speaker from audience talking about the "token Canadian", Eric Allaby.)

REYNOLDS: I'm not going to call for a caucus of the Canadian delegation. *(Laughter; comment from floor)* You were waiting for the rest to leave. Fine, well now, wait a minute. We've got to be legal about this. The resolution—the motion on the floor now is—you've amended actually your original motion.

KIRK: My amendment was seconded?

REYNOLDS: Yes, it was, Neville, by ten people. I think we have a secretary unless you're writing a letter to somebody? Are you writing this down?

(VOICE: I'm taking notes.)
Oh, taking notes, okay, thank you *(Laughter)*. As I think I have it, the main motion which was . . . yes, Neville?
KIRK: Could I add a further amendment?
REYNOLDS: Would you like to restate the whole motion, I mean you might as well, I think we're . . . .
NEVILLE: The motion is that a steering committee shall be set up to consist of Clark Reynolds, Phil Lundeberg, John Lyman. . . .
REYNOLDS: Eric Allaby?
NEVILLE: Yes, and that the committee shall be authorized to second to it such additional members as the committee deems necessary to aid in helping it achieve the objective for which it has been set up. You can appoint to your committee such individuals as you think will help your expertise or quality which will enable you to carry out your job.
REYNOLDS: Okay. That's the motion. I thank you again. The difficulty is, we're not trying to stack a deck. Believe me, we do want representation, and I know that a number of people have expressed an interest. There is the additional problem of those who were invited to come to this meeting and didn't or wouldn't or couldn't, and there have been reservations expressed toward this kind of a thing —outside of the people here—and so I think we will want to take into consideration the possibility of inviting others from the outside who might have been reticent but now are being faced with the resolution by a number of people with mutual interests wanting to go forward. Further discussion?
(VOICE: Question.)
The question has been called for, and hearing no objection we will now vote on the motion. All those in favor signify by raising their right hand. *(Done.)* All those opposed. The motion carries. This means that, if I may rule, I assume this committee will, once constituted in its more-or-less final form, select its own chairman and begin its own correspondence in hammering out proposals. I think the charge of this group is to have in April 1974 a draft proposal of one kind or another pointing out any conclusions we've arrived at, in terms of whether to go forward or not and if so, how, and throughout by the way I'm sure that this committee will be more than happy to get any kind of suggestions, recommendations, suggestions for information, avenues of approach, other people, other groups, anything at all. I'm sure we're going to solicit this anyway, but strike while the iron is hot.

(Speaker from the audience.)
REYNOLDS: Yes, that point is well taken, absolutely. But what I'm saying is I think we're going to have to add to it before we do that so that any kind of resolution like this will have the additional clout of a good cross-section of interested people. Well, technically speaking, there is no motion on the floor. Do I hear any other new, old or unfinished business? *(Voice from audience to adjourn.)*
The motion to adjourn.
ROPP: Before we turn to that motion, thank you for the superb conference.
REYNOLDS: Thank you very much *(Applause)*. Bill McAndrew, please, sir, stand up: he is the unsung hero. *(Applause)* (VOICE: He's a co-equal Canadian?) He's a co-equal Canadian, absolutely —nothing token about him: he's set up all the meals and has done just about all the hard work. So it's really been great fun and a great pleasure, believe me. We're enthusiastic about this kind of thing, and I hope something can come of it.
Thank you for coming. This convention is closed.
(The North American Society for Oceanic History was subsequently–in September 1974–incorporated as an educational, non-profit organization in the State of Maine. Its temporary headquarters are: 208 East Annex, University of Maine, Orono, Maine 04473, U.S.A.–Ed.)

[1] *The Proceedings of the First International Congress of Maritime Museums*, published by Her Majesty's Stationery Office in the fall of 1974, may be secured upon application to the Secretary-General, International Congress of Maritime Museums, c/o the National Maritime Museum, Greenwich, London SE10 9NF, England.