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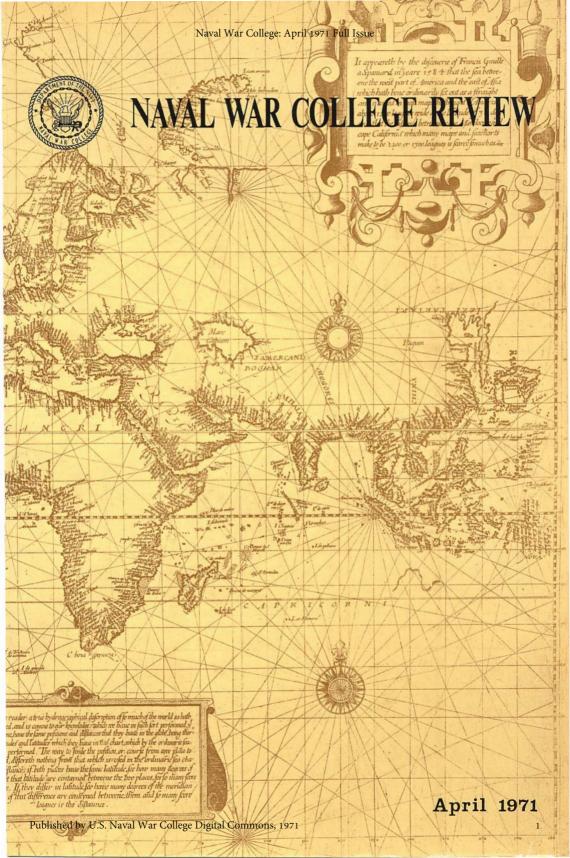
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FOREWORD The Naval War College Review was established in 1948 by the Chief of Naval Personnel in order that officers of the service might receive some of the educational benefits available to the resident students at the Naval War College. The forthright and candid views of the lecturers and authors are presented for the professional education of its readers.

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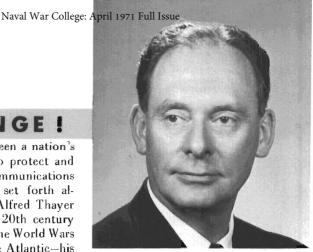
CHALLENGE!

The vital relation between a nation's security and its ability to protect and control its sea lines of communications (LOC's) was articulately set forth almost a century ago by Alfred Thayer Mahan. As events of the 20th century were to show-especially the World Wars I and II campaigns in the Atlantic-his writings proved prophetic to the point that, today, they have virtually become irrefutable.

The British blockade which was threatening to bring World War I Germany to its knees prompted the unconditional submarine warfare which soon thrust our Nation into war. As the Kaiser's admirals all too clearly recognized, only by cutting Britain's crucial Atlantic supply lines could that tiny island power be starved before her own blockade destroyed Germany. Two decades later the viability of Britain's lines of supply from the United States was again crucial to her withstanding another German onslaught. The attack on the U.S. convoy destroyers Greer and Kearney and the sinking of Reuben James occurred during our valiant pre-Pearl Harbor efforts. The goal: to keep shipping and our lend lease aid getting through to the British Isles.

Today, the fact that over 95 percent of the material used in support of the effort in Southeast Asia travels by sea once again attests to the vital importance of open sea LOC's.

The need to protect and control one's own sea LOC's should be readily apparent to the military commander and to anyone who appreciates the historic role of logistics in support of national security. Clearly the United States today faces a challenge to its ability to safeguard these vital sea routes. Until recent years our Navy



exercised undisputed control of all the seas and oceans of the world. Our capability vis-a-vis a potential enemy was undisputed, unquestioned. Today we find ourselves at the beginning of a new chapter in our naval history, one in which we obviously will be limited in what we can do unilaterally.

Last spring's Soviet naval exercise Okean not only highlighted the efficiency of the modern Soviet Navy, but it also demonstrated this fleet's worldwide operational capability under highly sophisticated and centralized command and control systems. A formidable armada of some 200 ships, including 50 submarines, plus substantial air and ground units combined in the largest Russian naval deployment outside of home waters since the Czar's fleet sailed to defeat at Tsushima in 1905. Conducted simultaneously on three oceans and nine seas, the exercise illustrated and supported an earlier boast by Admiral Gorshkov, the Soviet naval Commander-in-Chief, that the "U.S.S.R. has a naval fleet and aviation equal to any strategic task . . . on all the oceans of the world." The lesson of Okean is clear. The Soviets are now clearly capable of interdicting our free world sea LOC's,

This new shift in the balance of power at sea necessitates a long, hard look at what can be done to insure that those sea LOC's are never closed by either Soviet force or blackmail tactics.

In short, it requires that we articulate in umistakably clear terms our own role and that of our allies,

The emphasis on the role that our allies must play represents a clear departure from the years since 1945 during which we were unilaterally ready, willing, and able to carry the collective responsibility of keeping the essential world sea LOC's open-it was taken for granted. But we face today's world with both a reduced capability and the challenge of a large Soviet Navy, and it is in this setting that the role of our friends takes on new and critical proportions, synergistic advantage of our working together is obvious, Having discussed in some detail various aspects of allied naval cooperation in previous "Challenges," I would like to concentrate here on another dimension which will be essential to making a reality of the concept.

Specifically, I refer to the need to articulate a logical formula by which all the world's sea LOC's can be assessed, thereby providing a measure of their respective importance delineated in terms of the various interests and needs of the United States and its many free world partners.

For instance, the inviolability of certain sea LOC's is absolutely vital to the national security of this Nation because of the role they play in insuring economic, political, and strategic contact with our major allies, both Western European and Asian. These sea LOC's include those joining Western Europe and the United States across the North Atlantic, as well as those between our west coast and our great Pacific friends, Japan and Australia. And since control of the LOC through the Mediterranean is key to the viability of the southern flank of NATO, it too must be considered of vital interest, Here also might be included those sealanes over which strategic materials essential to the United States are carried, e.g., oil from Venezuela. In assessing the value of

these scalanes, I would assign them an "A" designator, indicating their utmost importance as far as our national security is concerned.

Of secondary importance are those sea LOC's which are vital to our major allies, Because of the close relationship between the security of these allies and our own, these scalanes must be considered indirectly critical, if not vital, to this Nation. An example of this "B" type of sea LOC is the route connecting Western Europe and the Persian Gulf, around the Cape of Good Hope, a LOC by which our NATO allies derive a great majority of their essential oil requirements. Another is the lane connecting our ally, Japan, with Middle Eastern oil, extending south through the Straits of Malacca on through the Indian Ocean, a route over which travel some 90 percent of that nation's current oil imports, By the same token, while the sea LOC from Formosa to Malaysia is not in itself a vital or critical U.S. supply line, it is for our Formosan ally. Its importance is further enhanced for us, however, because it coincides with the Japanese-Persian Gulf sea LOC.

Finally, a third, or "C" type sea LOC, is one which may be important to one or more free world nations but which is vital or critical to neither the United States nor to one of those major allies whose national interests we identify as inherently so linked with our own. Such a sea line of communication might be the one connecting the nations of the east coast of Africa.

In an era in which the U.S. Navy is no longer the undisputed mistress of all the seas—both because of shifting domestic priorities and because of burgeoning Soviet maritime power—allied participation in guaranteeing the sanctity of free world sea LOC's is indispensable. Categorizing the various sea LOC's, and thereby clearly defining their relative individual importance in terms of both U.S. and allied interests, is an essential step in determining the final

disposition of our various naval forces which will be charged with protecting the "A" and "B" class scalancs,

Obviously, the greatest single U.S. naval effort will be concentrated on insuring the protection of the "A" class sea LOC's. It will be with these in mind that our newest ship and aircraft designs, weapons systems, operational procedures, and multinational arrangements must be developed. Priority would be given to the assignment of forces to this mission.

Secondly, in partnership with our major allies concerned with the defense of the "B" class sea LOC's, our role will be to take an active part in further developing and expanding those proven efforts in operational ASW cooperation that have been demonstrated so successfully within NATO. In expanding such nascent efforts beyond the North Atlantic Treaty sea areas, the role of the United States primarily will be to make available military hardware, essentially through foreign military sales, as well as technical advice and assistance. While U.S. ASW ships and aircraft might well be provided, they would be assigned on a strictly partnership basis. Leadership of the operations should preferably be non-U.S.

Thirdly would be U.S. concern for the "C" class of sea LOC's, Here, because of limitations on our own naval resources, our efforts would have to be restricted to military assistance in the form of hardware and technical training and education, There probably would be little or no direct U.S. participation,

There has been questioning in some quarters that too much faith may be being placed on the role of allies in supplementing our naval strength, I would submit, however, that for the sea control mission, which is the area most concerned with allied participation, it is not too much to expect that allies will respond with alacrity in protecting those sea LOC's which they deem vital to their own interests, their own national survival! However, the division of responsibility for sea line protection must be made clear to them.

The delineation between what should be considered U.S. unilateral responsibilities and what should be considered allied responsibilities in sharing the protection of vital sea LOC's is long overdue, Without a clear reordering of naval priorities, the United States runs the risk of overextending its self-assigned areas of responsibilities. In such a process it risks two dangers: diluting and weakening its ability to respond in defense of its own most vital interests; and offering a false sense of security to allies, who may be content to rely on an overcommitted U.S. Navy to protect their vital sea lines of communications.

> R. q. Coehot R. G. COLBERT

Vice Admiral, U.S. Navy President, Naval War College Two underlying forces that are at work on the world scene are the diffusion of power away from Moscow and Washington and the decline of the aggressive revolutionary romantics. With an understanding of these forces the existing dangers that confront mankind must be probed seriously, with confidence and caution. The role of NATO and its member nations should be more internationalistic in both perspective and commitment to the building of a stable world order.

POLITICO-ECONOMIC WORLD DEVELOPMENTS AS THEY AFFECT NATO NATIONS IN THE 1970'S

An address delivered at the Allied Command Atlantic Naval Symposium at SACLANT Headquarters, Norfolk, Virginia on 4 November 1970

> by Dr. Walt W. Rostow

It is, if I may say so, appropriate that you have assigned to me a global perspective in discussing NATO in the 1970's. In the narrow sense, NATO is a defensive alliance designed to deter hostile military action against the NATO members by the Soviet Union and the nations of the Warsaw Paet. But, from the beginning, the security of the NATO nations and the character of NATO as an organization have been profoundly affected by developments throughout the world.

NATO, as we know it—with SHAPE and a massive capacity in tactical nuclear weapons—is, after all, a product of the Korean war and its aftermath. NATO's southern flank, as we are reminded every day, is profoundly affected by events in the Middle East and

Africa. Turkey is a critically important member of NATO whose security runs with that of Iran and South Asia. Relations between the Soviet Union and mainland China are a part of NATO's equation, as is the fate of Southeast Asia.

I shall begin, therefore, by describing two potentially hopeful forces at work on the world scene rather than with the NATO area narrowly defined. I shall then consider certain dangers we all confront as citizens of the planet as well as members of NATO countries. And I shall finally pose the question of how NATO and its member countries, acting together, might tip the balance of forces at work in a hopeful direction and move the world in the direction of stable peace in the decade ahead.

The two underlying hopeful forces at work on the world scene I take to be:

- the diffusion of power away from Moscow and Washington; and
- the decline of the aggressive romantic revolutionaries.

First, the diffusion of power away from Moscow and Washington. This is no new phenomenon. It began, in a sense, for both capitals in 1948. For the United States it began as a matter of national policy. It began when the American Congress voted the funds for the Marshall plan and threw its weight behind the movement toward Western European unity, We set about reviving a region which we hoped to see emerge as a partner, not a satellite. In effect, we set about purposefully to reduce the power we could then exercise in a critical part of the world. As for Moscow, the diffusion of power began when Tito defied Stalin and proyed that Yugoslavia could survive on that basis.

This diffusion has continued over the past generation, gathering momentum, in particular, after the Cuban missile crisis. For good or ill, that crisis persuaded men in many parts of the world that the Soviet Union was not as dangerous as it had been in the past; and, therefore, they could act with greater independence of Washington, as well as of Moscow, The missile crisis also brought Moscow's split with Peking into the open and intensified it.

So far as American policy is concerned, I believe we can take a certain pride in the fact that in the first postwar generation we threw our political influence, as well as our economic resources, behind the desire of nations to stand up straight and fashion their own destiny. And we have moved in recent years-notably under President Johnson's leadership—to the active support of regionalism in Latin America, Africa, and Asia, as well as continuing our support for regionalism in Western Europe. President Nixon is, evidently, acting in continuity with this policy

whose roots lie, as I say, as far back as

But what about Moscow?

In 1960, after the presidential election, I was sent to take part in a Pugwash conference in Moscow on arms control, I was asked to speak toward the end of the sessions. I described, as an economic historian, the spread of the industrial revolution after 1815 and, with it, the diffusion of power away from London in the century before the First World War, I then said:

Now the industrial revolution is taking hold in the areas which were skipped during the century after 1815-that is to say the industrial revolution is taking hold in China and Eastern Europe; and it is occurring-or it will soon occur -in the whole southern half of the globe,

The inevitable result is that industrial potential, military power, and influence on the world scene are being diffused and will continue to be diffused.

Faced with this fact, there are three choices open to the Soviet Union and the United States, We can stumble into a war and destroy a large part of what man has built on the face of the earth and a large part of the world's population. We can continue the cold war until the diffusion of power removes the capacity to decide from Moscow and Washington. Or, working constructively together, we can create the terms on which power will become diffused.

This is the limit of the historical powers of the Soviet Union and the United States, I would hope that we would choose the third path. This is the historical responsibility we owe to our peoples.

I believe that assessment was essentially correct in 1960; and it remains correct, although the continued relative concentration of nuclear capacity in the United States and the Soviet Union makes it necessary to define the diffusion of power with some subtlety.

I cannot say that the Soviet officials who heard me in 1960 immediately agreed to choose the third path; and, much as I should like to believe it, I do not think Soviet policy has yet firmly accepted this doctrine. But I do believe that there are more men in Moscow than there were 10 years ago who understand that the world emerging in the latter half of the 20th century is not going to be dominated by any single power or any single ideology and that their duty to their own peoples is to help organize the world peacefully rather than to try to control it directly from Moscow. That is what the Nonproliferation Treaty is about, the SALT talks, and the occasional Soviet efforts to join others in damping, rather than exacerbating, crises. What has happened in the Middle East since 1967 and in Czechoslovakia in 1968 should remind us that this doctrine has not been accepted fully. But we are closer to it; and the forces making for the diffusion of power will certainly persist, not diminish.

Related to the diffusion of power is a second major force which could lead us in the direction of stable peace. That is the decline of the aggressive revolutionary romantics.

The polities of developing nations has been marked in the generation since 1945 by a group of autocratic or totalitarian leaders who have chosen to build their domestic polities on "anti-imperialism" and to channel a high proportion of the limited energies, talents, and resources available to them into external expansion: in Asia the roster includes Mao, Ho, Kim, and Sukarno; in the Middle East, Nasser and the other radical Arab leaders; in Africa,

Nkrumah and Ben Bella; in Latin America, Castro. In one way or another these men were deeply involved in the world's major crises since South Korea was invaded more than 20 years ago.

Some of these leaders are gone, and the fate of others—and their policies—is still to be determined. In general, however, they encountered three forces which have tended to frustrate them.

First, they encountered other people's nationalism. Their revolutionary doetrines had a certain resonance in other countries within their regions; but it is one thing to be a radical nationalist Arab, a believer in Black African unity and assertiveness, or to hold that the social ills of Latin America require radical solutions; it is a different matter to agree to take your orders from Cairo, Acera, or Havana.

Second, they have encountered the resistance of those who have not wished to see the regional balances of power upset. Although the United States has carried in our time the major burden of supporting those under pressure of regional aggression, the British and Australians stood with Malaysia; 15 nations with South Korea; six with South Vietnam; in 1958 Britain and the United States stood with Jordan and Lebanon; since 1967 the United States has helped keep the balance of regional forces from overwhelming Israel.

Third, the relative neglect of domestic welfare gradually reduced political support at home for policies of external grandeur which failed to yield decisive results. It is easy initially to excite the people with visions of quick redress for real or believed old grievances or humiliations; but, in time, the desire to eat better, to see the children grow up with better health and more education asserts itself.

It was in such settings of frustration and disabuse that Nkrumah, Ben Bella, and Sukarno gave way to successors more focused on tasks of welfare and growth; the great debate proceeds between Mao and his opposition; and the North Vietnamese begin to surface their inner debate on the priority of victory in the south versus "building socialism" in North Vietnam.

It is no easy thing for a group of political leaders to abandon a vision to which their mature lives have been committed and which, up to a point, granted them success. Mao, evidently, has refused, and will probably refuse to the end, to acquiesce in the pragmatic bent of his "revisionist" opponents who would (in the phrase of one of Mao's opponents) encourage policies based on "objective economic laws" at home and external policies such that "the world can bask in the sunlight of peace" and "infants can slumber in the cradles, and mothers and wives may no longer live in nightmares." Kim's dream of ruling all of Korea from Pyongyang will die hard; although Kim has been brought up short by a simple, stabilizing and sobering fact: the rate of growth of South Korea is two or three times the rate of growth of North Korea. The dream of the men in Hanoi-that they alone are the proper successors to the French colonial empire in Asia-will also fade slowly and with great pain for men who have sacrificed almost a million human beings in its fruitless pursuit. Castro will never find in producing sugar a substitute for his vision of converting the Andes into the Sierra Maestra of South America, And Nasser, tragically, could not have held long to the idea that occasionally engaged him-that Cairo will only be great when Egypt, by its performance in economic and social development, helps lead the Middle East by example in overcoming its heritage of poverty and reconciling an intractable Arab culture with the exigencies of the modern world.

In the case of Hanoi, Pyongyang, Cairo, and Havana, the availability of large external resources permits postponement of the decision to shift from expansion abroad to growth and welfare at home.

And before these dreams are abandoned, we may see final desperate acts to fulfill them. But, in the end—sooner or later—they will confront the destiny of the first great romantic revolutionary expansionist—Napoleon. And they—or their successors—will echo Napoleon's memorandum to his Finance Minister in December 1812, when he abandoned the continental system and the attempt to throttle Britain: "Undoubtedly it is necessary to harm our foes, but above all we must live."

I believe the forces at work yielding a diffusion of power and the decline of the romantic revolutionaries are real and strong, but I would not for a moment predict a sudden emergence of our world into the sunlight of stable peace, nor do I expect these two forces to work out smoothly and automatically to hand us peace on a platter. There are ample forces also at work which could yield disruption and chaos, and there are a number of specific dangers.

For example, the turn away from radical expansionism to a concentration of the tasks of growth and welfare for the people is not yet visible in the Middle East, although the popularity of the American peace initiative among the people of Jordan and Egypt suggests that the latent impulse might be there; and only recently I heard it reported that the new Egyptian Prime Minister said to his people that their most urgent task is in education, to modernize their society, and that the problem of Israel must be dealt with through diplomacy, but against a background of military strength. So far so good, but we will have to see.

For example, a frustration of growth in important parts of the developing world could induce a shift away from a pragmatic concentration on economic and social progress to more disruptive policies at home and abroad. Let me pause and underline this point. I can think of no worse period for a decline in aid to the developing world than right now. President Kennedy suggested the 1960's might be called the Decade of Development, And that decade saw much more progress than is generally understood. In every region there are success stories which demonstrate that the job ean be done: from South Korea and Thailand to Iran and Turkey; to Tunisia and the Ivory Coast; to Mexico, Colombia, and Venezuela. But the job is not done. We have at least another decade of hard work before the nations containing the bulk of the population in the developing world will have moved into self-sustained growth. We all-that is, the nations of NATO plus Japan and Australia, Sweden, and Switzerlandhave a major task ahead to make the second development decade a success.

Now, of course, increased external assistance to developing countries will not, alone, deal with all their problems; for example, the urgent need to bring down the birth rate in the Indian subcontinent, Java, and elsewhere. But increased external assistance is essential if we really wish to move the world in the direction of stable peace and to make the most of historical forces which trend in that direction.

There are still other dangers of disruption and conflict which could arise within the Communist world; for example, out of the Soviet fears of a nuclear China and Soviet fears of rising nationalism and liberalism in Eastern Europe.

One of the question marks is the United States. We Americans evidently face a number of searching problems at home. We have carried a high proportion of the burdens and responsibilities of the world community for a quarter century. There are those who believe this is enough and that we should now come home.

I do not doubt that in a world of diffusing power-where others wish to take a larger part in shaping their own destiny—the relative role of the United States should and will decline with the passage of time. It has declined in Europe and Latin America, and it is declining in Asia. And the role and responsibilities of others should and will increase. That, after all, is the whole point of the Marshall plan and the similar policies the United States has followed in other parts of the world where we have sought not satellites, but partners, preferably working on a regional basis.

But still, if the United States pulls back too fast—in Europe or the Middle East, Latin America or Asia—we could move the world not toward stable peace, but toward chaos and enlarged areas of violence and international conflict. This is a responsibility we Americans bear and cannot escape.

But whether we Americans stay the course depends in part on the behavior of our allies. I do not believe the American people are truly isolationist in mood. They understand that the world is being drawn closer together every day-by missiles and satellite communications and jumbo jets. But they are a bit lonely in the responsibilities they have borne in the first postwar generation, and they look to Western Europe and Japan, in particular, to do more in the 1970's. The European members of NATO and Canada should understand. therefore, that the cast of American policy in the 1970's is partly in their hands.

This is roughly the balance of forces at work on the world scene as I see them. Now, what can NATO—and the Atlantic community in the larger sensed to tip them in the right direction?

I suggest that the NATO agenda for the 1970's can be stated in terms of six major items.

First, we must keep NATO strong. NATO represents the first successful reconciliation of the diffusion of power, on the one hand, and the organization

of diffused power for the constructive common purposes, on the other. The whole history of war and peace in this century, and especially of movements toward peace since 1945, is that we have moved forward on the basis of Western strength, and we have moved backward when the West looked weak and divided and the men of ambition in Moscow were tempted to press against us. That proposition has, at this moment, a particular meaning. In the wake of the Cuban missile crisis, the Soviet Government, undoubtedly influenced by the Soviet military, decided that it would not again be in the position of undertaking exercises in the expansion of power without an adequate foundation of military hardware. We are now seeing in every part of the Soviet military structure the physical consequences of that decision not to be caught bluffing again. We can observe a rapid increase in Soviet strategic capabilities, in the pace of modernization of the Warsaw Pact ground forces and air forces, and a remarkable expansion in the Soviet Navy. I have no doubt that deep in Moscow is the hope of producing, somewhere, somehow, a reverse Cuban missile crisis; that is, a major confrontation from which the United States and the Western World would have to back down palpably. I do not believe that it is the only strand of thought and policy in Moscow, There are, for example, great anxieties about mainland China and about the stability of Eastern Europe. There are, as I suggested earlier, some who probably understand that the diffusion of power makes a Cuban missile crisis in reverse an anachronistic dream. There are undoubtedly many who know that even a massive increase in military bardware does not casily translate into usable military, diplomatic, or political force.

Nevertheless, I take the first duty of NATO to remain strong enough by a substantial margin so that a major military adventure by the Soviet Union is ruled out in the 1970's.

Second, it follows that the American forces in Europe should not be reduced significantly—except as part of a jointly negotiated mutual withdrawal of forces—and that the European members of NATO should enlarge rather than diminish their military contributions to the organization.

As a busy teacher of history, I have not followed closely NATO affairs in recent months; but I have the impression that there are some who argue that the Western European nations should make some special contribution to assure the continued presence of U.S. forces in Europe, I am sure that the halance of payments burden of maintaining U.S. forces in Europe should, by one device or another, be fully offset. But I believe that what is required now is not some special budgetary contribution to the United States from Europe, but that the European members of NATO find the resources to modernize their own forces committed to NATO. The United States does, indeed, face certain severe economic and budgetary problems at the moment. But these we ought to solve ourselves. And, meanwhile, the other NATO members ought to increase their contributions to NATO rather than provide a temporary crutch to the United States.

Third, from this basis of strength, assured by common action in loyalty to common NATO plans, we ought to probe seriously, with both confidence and caution, the possibility of detente to the East. There are serious reasons why Moscow might wish to ameliorate at this time its relations with Western Europe and NATO. It is evidently anxious about mainland China and the Sino-Soviet border. It is evidently anxious about the inner stability of Eastern Europe where the forces of nationalism and liberalism are historically on the rise and the economic

example of the West (and Japan) has proved vastly more attractive than that of the Soviet Union. If the issues of tension in Central Europe can be eased and evenhanded arms control measures negotiated between NATO and the Warsaw Pact, that is all to the good. But we discourage-not encourage such achievements if we are weak, if we are overanxious, or if we seem ready to accept such amelioration at the cost of weakening our position on Berlin, diminishing the cohesion of NATO, or going slack in our defense budgets. We have had a quarter of a century's experience negotiating with Moscow, We ought to know, by now, that solid agreements can only be reached under circumstances where Moscow concludes that Western strength offers no realistic alternative.

Fourth, NATO obviously faces special new challenges in the Mediterranean, and great attention will have to be given to NATO's strength and cohesion in that area. It is not at all clear what Moscow intends to do or, indeed, can do with its enlarged naval activities in the Mediterranean; but it is important that Moscow be clear that NATO is united and determined in maintaining its vital interests on the critical southern flank.

Fifth, the ultimate meaning of Soviet activism in the Mediterranean may depend on political and economic policy in Africa and the Middle East, at least as much as on the balance of naval and other forces that can be brought to bear in the Mediterranean itself. We all know that Moscow has interests not only in the Middle East, but in the Horn of Africa and the Indian Ocean area, We all know that Moscow has exhibited an interest in the western as well as in the eastern Mediterranean. The policies followed by the NATO countries-and especially their political and economic policies toward the nations of Africa, the Middle East, the Persian Gulf, and South Asia-may be decisive in determining the outcome of this new phase of Soviet experiment with the doctrines of Admiral Mahan. If the nations of these regions decide that their primary mission is to maintain their independence and to concentrate their energies on economic and social development, the outcome of this phase of Soviet naval policy may be relatively harmless. If Moscow can draw and hold certain eritical areas into dependence on-oreven alliance with-the Soviet Union, we may face difficult times. In my judgment, if we play our cards with wisdom, the odds are with us and not the Soviet Union; but, as always in history, the odds do not work with you unless you work with them.

As a former public servant, I know how difficult it has been to get the NATO countries to concert their political and economic policies outside the narrow NATO area. It has never, in my view, been more important that we learn to do so than in the 1970's.

Sixth and finally, I believe the 1970's is the decade when Europe ought to resume an active interest in Asia and Latin America as well as expand its constructive role in Africa and the Middle East. This is the decade when the European perspective ought to become, again, a global perspective.

Both Latin America and Asia are going through difficult passages in different ways. Latin America is wrestling with certain deep and slow-yielding problems of economic growth on the one hand, and political stability, on the other. On the economic side it needs help not only from the United States, but also from Western Europe.

Latin America is also gradually coming of age. It has been a virtue of American policy since, let us say, the Punta del Este meeting of the Presidents in 1967 that Washington has actively encouraged the movement toward Latin American economic integration.

As in the case of American support for European integration, Washington

has supported this trend for political as well as economic reasons. We believe economic integration is essential if Latin America is to solve certain of its critical economic problems, but we also believe that economic integration would help give Latin America the strength to deal with the Colossus of the North in an environment of confidence and dignity. In the generation ahead Latin America ought to move in this direction, and, as it does so, it ought to come into the Atlantic community as a partner not merely of the United States, but also of Europc.

By the year 2000 Latin America will contain a population of about 600 million. Its GNP per capita at that time should be in the range of \$650-\$1,100. It will have absorbed virtually all of the modern technology and be enjoying the ambiguous blessings of what I have called the stage of high mass consumption, to which Western Europe and Japan have taken with such exuberance in the past 20 years.

Europe ought to be moving now to help bring Latin America along so that it gradually emerges as a partner of the North Atlantic community as a whole.

With respect to Asia, I would simply say, without arguing the case, that I expect a stable settlement to emerge in Southeast Asia in the months and years ahead. We all have an enormous stake in seeing an Asia emerge after that settlement in which cohesion is gradually built up in the vital are from Scoul and Tokyo to Karachi and Tcheran-a cohesion aimed not against China, but one which would offer China a chance to come out into Asia and the world without the temptation that weakness and disunity would offer. Europe, as well as Japan, could play an enormous constructive part in bringing about this salutary balance in the part of the world where 60 percent of humanity lives and will continue to live. For surely life in the Atlantic is going to be increasingly affected by events in Asia.

holding up this vision of the NATO agenda for the 1970's, I am conscious of the radical change it demands of Europe and in the European outlook on the world.

In concluding, I wish to talk about this change with the freedom I now enjoy as an individual and historian rather than as a public servant—and also, if I may say so, as one who has had the privilege, over 35 years, of sharing something of the life of Europe; as a prewar student; 3 years in Europe at war and 2 in reconstruction; as a teacher in postwar Europe, and as an often itinerant public servant, including my job as a founding member of NATO's group of policy planners.

As a historian I have no difficulty understanding why Western Europe has, in effect, pulled back from the world scene in the first postwar generation:

- Europe began exhausted by war and understandably anxious to concentrate on its own recovery and growth;
- It fell into reliance on U.S. military strength and especially American nuclear strength;
- It faced the painful withdrawal from colonialism which, by and large, was conducted with considerable statesmanship and grace but left, also, some harsh memories and a desire to stay
- There was the exceedingly painful episode of Suez which left sears;
- Like the United States, some of the nations of Western Europe face domestic problems that go with what I have called the search for quality-the stage beyond the automobile age; those domestic problems may not be as acute as those in the United States but they are, nevertheless, real enough to narrow horizons and deter impulses to assume enlarged responsibility on the world scene;
- Finally, there has been the problem of Britain's relation to Europe which has complicated the already diffitask of formulating common

European policies toward the world outside NATO.

All this is understandable, but it has thrown an unnatural burden on the United States. I remember well, for example, how it was impossible to generate from Europe two or three C-130's to help Mobutu airlift his best unit across the Congo so that a massacre of some 10,000 Europeans could be avoided. President Johnson, with an ample agenda of trouble, had to do this at considerable political cost in the Senate.

I remember, during the hot-line exchanges of the Middle East war of June 1967, the total lack of coherent policy in Europe toward an area of truly vital interest—a lack which left the handling of the crisis almost wholly up to the United States.

I would hope that in the 1970's the leaders and citizens of Western Europe could free their minds from the simple image of a now dominant United States committed to look after the world's problems out of its own natural hegemony. I would hope they would free their minds, also, from the trauma of the Second World War, from the painful liquidation of colonialism, Suez, and all that, I would hope that Western Europe would come wholeheartedly and in unity to join in the greatest piece of unfinished business we all confront; namely, the building of stable world order.

Angus Maude, in his book The Common Problem, stated well the process that has to take place in the collective mind of Europe. He writes:

People will only do great things if they see the possibility of great things to do. Once they see the possibility of creative action—their own action—they may regain the confidence that has begun to desert them. When they have regained their own self-confidence, they will recover a confidence in

their country. When they have rediscovered a role for themselves in their country, they will rediscover a role for their country in the world.

The fact is that a great role now awaits Europe in a job too big for the United States—or any other single nation—to handle on its own. The job is to move the world from where it is to a stable peace not known since 1914: by steady and concerted action to tip the forces making for order, reconciliation, and progress against those making for disruption, fragmentation, and danger in a fragile nuclear world.

In helping tip that balance in a hopeful direction, Western Europe could find, I believe, a stable role in the

BIOGRAPHIC SUMMARY



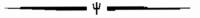
Professor Walt W. Rostow is a recognized international authority on economics and economic history and has written many prominent books and articles in the field. Graduating from Yale in 1936, he

attended Oxford as a Rhodes Scholar and completed his Ph.D. degree at Yale in 1940. He also holds M.A. degrees from both Oxford and Cambridge.

After serving in the Office of Strategic Studies during World War II, Professor Rostow taught American history at both Oxford and Cambridge prior to returning to the United States. In 1950 he joined the faculty of the Massachusetts Institute of Technology as Professor of Economics and senior staff member of the Center for International Studies, where he remained for 10 years. In January of 1961 he was appointed as Deputy Assistant to the President for National Security Affairs. In November of that year he was designated Chairman of the Policy Planning Council of the State Department. Selected as Special Assistant to President Johnson in 1966, Dr. Rostow left Washington in 1969 to become Professor of Economics and History at the University of Texas.

1970's and beyond, And Britain's entrance into an enlarged Europe could make that role easier to accept and more effective in action.

We do not know whether the job can be done, even if we all work at it in full Atlantic partnership. What can be said, on the basis of a quarter-century's effort against considerable odds, is that the task of moving in the next generation toward stable peace does not appear impossible; and those are about as good odds as man is ever granted in great enterprises,



One truth must rule all we think and all we do. No people can live to itself alone. The unity of all who dwell in freedom is their only sure defense.

> Dwight D. Eisenhower, Second Inaugural Address, 21 January 1957

Cover: Wright-Molyneux map of the world circa 1600. A first state of a map by the eminant English globe maker Emery Molyneux done on the new Wright modification of Gererdus Mercator's projection. Edward Wright was the first to demonstrate the true principles upon which maps were to be laid down by means of the tables of meridional parts. This map represents his first attempt. It accompanied Richard Hakluyt's second edition of Principall Navigations (1598-1600). The map is also known as Shakespeare's "New Map," being referred to by the playwright in Twelfth Night (iii, 2), which was produced for the first time in 1601-1802. Reproduced with the kind permission of the Hakluvt Society, c/o British Museum, London, from the Works Issued by the Hakluyt Society, Ser. 1, No. 59 (in separate cover).

Ambassador Ushiba comments on both economic and political changes that have occurred in Japan since World War II and the resultant effects they have had on Japan's role in the world. Characterized by a swiftly growing economy dependent on overseas markets and raw materials, and a population still unwilling to approve of war as an instrument of national policy, the Japanese have evolved over recent years a policy promoting peace and political stability in Asia through economic aid and trade. No longer "America's junior partner in Asia," the Japanese now perceive of their role as being an equal to the United States in Asia, capable of pursuing independent policies which together with the actions of America will do more than anything else to determine the future of all Asia.

JAPAN:

HER ROLE IN WORLD AFFAIRS

A lecture delivered at the Naval War College by

His Excellency, H.E. Nobuhiko Ushiba Ambassador of Japan to the United States

In reading about the Naval War College I was pleased to note that lapan has been one of several countries which have been privileged to send participants to the college's Naval Command Course. Such cooperation is particularly gratifying to me, since it demonstrates very graphically how far our countries have come in building a firm base of friendship. It is my proposition to you today that the mutual interests underlying that friendship are very real and that whatever surface frictions there may be hetween us, these mutual interests should always be given the top priority which they warrant.

It is now 4 months since I arrived to take up my duties in the United States. This has been one of the most interesting and instructive periods of my career. Even in this short time I have become acquainted with hundreds of Americans, private citizens as well as Government officials.

These days more and more people in the United States, and in Japan also, seem to be saying that relatious between our two countries have entered a "new era." It is being said that important forces for change are at work and, the relationship will never be quite the same again, I agree with this proposition. The basic reason for this change is that Japan is growing, and this allows her to take on more responsibilities. However, I predict that such changes will not weaken our ties of friendship with the United States, They will only add new

dimensions to the common interests that have so successfully bound us together in the postwar period.

Today, in talking on United States-Japanese relations, I want to direct my comments particularly to two subjects first to security matters and then, because they are so closely related, to economic considerations.

From the Japanese point of view at least, the most significant recent development in our relations with the United States was the agreement reached in late 1969 that will return the administrative rights over Okinawa to Japan in 1972. As our Prime Minister has said, for Japan this agreement marks the end of the postwar period. With the return of Okinawa, Japan's territoryexcept for those northern territories still under Soviet occupation-will be whole again. We are most grateful for the trust and confidence which has been shown to Japan by the Nixon administration in agreeing to negotiate this reversion.

How will the change in the status of Okinawa affect political and security relations between the United States and Japan? For one thing, it means Japan will be assuming greater responsibility for conventional defense of its own territory, including Okinawa. In order to meet this greater responsibility, we intend, in our next 5-year plan, beginning in 1972, to double our current level of defense expenditures.

These expenditures will strengthen our self-defense forces, Such forces exist in Japan, for it is only natural that an independent nation should seek to defend the independence and peace of the country by its own hands.

The primary function of the Japanese Self-Defense Forces is to defend Japan against direct and indirect aggression. However, in this nuclear age, it is extremely difficult for any nation to ensure its defense by its own means. Therefore, just as many other countries do, Japan follows the policy of deterring external aggression by means of

a collective security arrangement. Naturally our arrangement is with the United States, with whom Japan shares many interests in political, economic, and other fields. Since Japan has neither nuclear weapons nor offensive armaments, it is considered essential in my country to maintain the Japanese-United States security system.

On what will the money in Japan's new defense budget be spent?

It is too early to reply in detail to this question, but I can say that under the next 5-year program, emphasis will be placed on qualitative improvement rather than on quantitative increase. For instance, there will be virtually no increase in the current numerical strength of the army, which will remain at 180,000 men. However, the mobility of these forces will be increased substantially by adding helicopters and armed personnel carriers.

As for the navy, a number of highspeed rocket boats, destroyers, and submarines may be added for coastal defense.

For the air force, the existing F-86 fighters are scheduled to be replaced by about 104 F-4 Phantom jets.

This modest streamlining of Japan's Self-Defense Forces does not alter the fact that the ultimate foundation for Japanese security continues to be its Mutual Cooperation and Security Treaty with the United States. This treaty, which was automatically extended this past summer, provides what the United States alone is able to provide us—a viable nuclear deterrent.

To the question, "Should Japan herself have nuclear arms?" our answer is a definite "No."

As you know, the Japanese Constitution specifically bans the possession of nuclear arms and weapons for offensive purposes. Furthermore, repeated national opinion polls show that the overwhelming majority of the Japanese people oppose nuclear armament. Also, because of Japan's peculiar geographic and population configurations, it would be almost impossible for Japan to attain the viable "second strike" capability which is necessary to the possession of a believable nuclear deterrent. Finally, if we were to arm ourselves with nuclear weapons, we would not only excite some of our neighbors and begin the vicious cycle of a nuclear arms race with them, but we would also arouse needless alarm on the part of other neighbors who undoubtedly would allege that militarism had once again raised its head in Japan.

In addition to the considerations already made, one cannot ignore the questions that are raised considering the Japanese attitude toward militarism. As a representative of Japan I now ask you to believe that a people that admittedly possessed an expansionist attitude in prewar days are now deeply opposed to war as a national policy. What are the changes in circumstance that are responsible for this shift in attitude?

First I must emphasize the new emotional attitude of the Japanese people, who have been through the ordeal of a wartime devastation as perhaps no other nation in history. The trauma of attack by the only atomic weapons ever used by men against men cannot be overstated. Moreover, the bomb aside, Japan lost 40 percent of its territories to the Allies and nevertheless had to feed a population, in the immediate postwar period, that was increased by the repatriation of 6 million Japanese from these lost territories, The people's only concern in those days can be expressed very simply as an effort for mere survival.

Today, Japan is a strong country industrially, but the Japanese people still opt for peace. They realize the vulnerability of the country in many respects and of the futility of resorting to the use of arms to accomplish national purposes.

Total war, of course, would be the extinction of mankind. That is clear.

But even a so-called limited war threatens Japan's newly gained prosperity and her very existence as a nation, because Japan depends very heavily on trade for her survival. For example, Japan imports essential materials such as oil, iron ore, and practically all other metal ores, lumber, cotton and wool, and foodstuffs. And she exports manufactured goods all over the world to pay for the purchase of such materials. Japan, therefore, realizes full well that she can prosper only when those countries which are her sources of supply and her markets are at peace.

Moreover, should war crupt, Japan's vital sea routes cannot be kept open and safe even between third countries. Here I refer particularly to the Straits of Malacea where one oil tanker after another passes with petroleum on board from the Middle East for fueling the modern industries of Japan; one might say without exaggeration, for carrying on the necessities of daily Japanese life.

Added to these reasons are those I have given earlier as to why Japan has specifically opted to go nonnuclear. Incidentally, in this respect we Japanese have a saying to describe a secondary power going nuclear. We say that they "go nuclear, but without pants." In Japan we prefer to go nonnuclear and look presentable.

In summary, Japan has both psychological and practical reasons for putting aside war as an instrument for settling international affairs. That is why we continue to adhere to article IX of our Constitution which expressly forbids such activity. I can foresee no change in this posture.

This does not mean, however, that we can be complacent about our own security. We are the immediate neighbor of the two great Communist powers, the Soviet Union and Communist China. Moreover, in Asia there are three precariously divided countries, of which two are again Japan's immediate neighbors.

These unique circumstances make our people increasingly defense conscious, the fact of which is expressed in the increasing popular support for our self-defense forces and also for the United States-Japanese Security Treaty. This treaty, as I have mentioned before, continues to be the cornerstone of our national security.

If Japan's increased military strength is limited to use only in her own defense, how is Japan contributing to the security of the world, especially to the security of Asia? Basically, Japan is responding to that question by making use of her growing economic power. Let me explain my thinking on this point.

At present, power relationships between so-called East and West, especially from a military standpoint, are in relative balance. Current relationships between the two biggest powers on the Asian Continent, Russia and Communist China, are also somewhat in a state of equilibrium. It appears that both of these conditions will exist for some time.

In such a case, the security threat in Asia seems to be not so much a danger of large-scale aggression by one country against another as it is the type of clandestine support that one country might give to a group in a second country for ideological reasons. Such support would be based upon social and political unrest in the second country. The unrest which invites this type of aggression is largely caused by the kind of poverty which now exists throughout much of Asia. And the poverty problem in Asia, home to over one-half of the total world population, is staggering.

In this context, Japan's duty is clear. She must use her new economic strength to help bring about the stability and strength in the Far East that is necessary to the enduring peace of that region.

The total amount of Japanese aid to all developing countries has in fact more than quadrupled in the past 5 years.

Such aid went from less than \$300 million in 1964 to \$1½ billion in 1969. The greater part of Japan's aid is directed toward Asian countries, especially the countries in Southeast Asia.

These figures include dramatic steps by Japan along the lines of multilateral aid. Once a heavy borrower from the World Bank, we are now lending substantial sums to that institution and are close to becoming a creditor of it. Furthermore, Japan and the United States are the first and second largest contributors, respectively, to the recently established Asian Development Bank.

Japan is also participating vigorously in such regional instruments as the Asian and Pacific Council (ASPAC) and in periodic ministerial conferences for economie development. Moreover, Japan has recently taken additional steps to increase the level of its aid program. The Government intends to allocate I percent of her total GNP to economic assistance to the developing countries by 1975, Since Japan's GNP is growing at a real rate of well over 10 percent each year, the amount of our foreign aid in 5 years will be quite substantial, reaching the level of approximately \$4 billion per year by 1975.

As experts in international affairs, you will appreciate that economic strength has political ramifications as well. Therefore, Japan's contribution to peace will not, indeed could not, be limited only to the transfer and exchange of goods, capital, and knowhow. The Djakarta conference of Asian powers in May of last year, for example, was convened to consider ways in which Japan and other Asian states can help speed a just and durable peace settlement in Indochina.

At the United Nations, too, Japan has expressed her views. We are concerned especially in seeing the efficiency of that body increased and also in

supporting its peacekeeping and disarmament activities.

Speaking of Asia once again, let me say that Japan understands and appreciates the U.S. reappraisal of its activities in that region. We understand, in other words, the concept of the so-called Nixon Doctrine. That doctrine calls for increased responsibilities by America's friends for their own security. Japan has shown that she, for one, is prepared to accept that responsibility.

At the same time, however, Japan understands that the Nixon Doctrine does not mean that the United States has any intention of abandoning the basic goal of establishing stability and order in Asia. To this end the United States should realize that, as a superpower, it has unique economie and military abilities which none of its friends, however well-meaning, can presently match, Thus, Japan feels strongly that the Nixon Doctrine should not mean the withdrawal of the United States from Asia.

Her friends can and should give the U.S. efforts their full support. Japan, for instance, especially in Asia, can be a strong partner of U.S. efforts to promote stability, this being the most appropriate role for her in the immediate future.

President Nixon expressed similar thoughts in his state of the Union message last January when he said: "Peace requires partnership, . . . the new partnership concept has been welcomed in Asia. We have developed an historie new basis for Japanese-American friendship and cooperation, which is the linehpin for peace in the Pacific."

Regarding this theme of cooperation, I would like now to look more closely at another aspect of current United States-Japanese relations. In particular, I want to say a few words relative to economic matters affecting the two countries.

You are probably familiar with the difficulties which have arisen recently

concerning this area of mutual interest. Since my arrival here in September 1 have been very heavily engaged in these problems concerning textiles and other matters. From my close involvement, l know that the differences of ontlook which characterize onr respective views of these subjects are deep and do constitute cause for concern. However, it is my sincere belief that these difficulties must be kept in a proper perspective and order if they are not to cause unduc alarm and reperenssions throughout the range of our relations. To permit these difficulties to damage our mutual trust as friends would not serve the interests of either party, politically or economically.

Two-way trade between Japan and the United States has grown rapidly since the 1950's and is approaching \$10 billion this year, This is the largest volume of overseas trade between any two nations in the world. Only United States-Canadian trade is larger.

For many years the surplus in this trade was very much in U.S. favor. For the past 6 years it has been in Japan's favor, contributing to some discomfort on the American side. It is important to understand, however, that this is a transient, rather than a permanent, shift of our trading relations, Indeed, the gap was substantially narrowed in the year just ended. This is partly because of a decline in U.S. demand for foreign imports. It is also because of greatly increased Japanese demand for Ameriean agricultural products and manufactured goods.

The constant in our cconomic relatious-the point to be remembered-is that Japan and the United States are each other's best overseas eustomers. This interdependence is rapidly expanding and diversifying, to the benefit of both American and Japanese workers, producers, and consumers. Looking into the future, we can say that the diversification of this growing trade offers great promise in terms of satisfying the economic needs of both countries.

Not many years ago, American exports to Japan were dominated by raw materials and agricultural products. These exports continue to be important. U.S. agricultural exports to Japan have in fact grown to more than \$1 billion a year. There has been even greater growth in exports to Japan of U.S. capital equipment and manufactured goods, for both industrial and consumer use. Just 5 years ago these items constituted 31 percent of all U.S. exports to Japan; last year they constituted 42 percent. These changes in the quality of American exports to Japan are providing hundreds of thousands of jobs for American workers across the Nation. Undoubtedly the future will see Japan continuing to provide a market for the kind of high-value, sophisticated U.S. exports which only a few nations in the world can use or afford.

Correspondingly, American imports from Japan are also changing in kind. Not many years ago these shipments were dominated by cheap toys and gadgets and inexpensive textiles and apparel produced by relatively low-cost labor. Today Japan is exporting to the United States (and the world) ships, cars, sophisticated optical and photographic equipment, calculators, and TV and sound equipment. And the type of textiles and apparel we are now sending over is produced by some of the most technically advanced, capital-intensive textile mills in the world. The changing quality of United States-Japanese trade reflects growth and change in both our societies, and especially the very rapid maturing of the Japanese economy over the past decade.

Ideally trade between countries should demonstrate the economic theory of "comparative advantage." That is, each nation should produce most of what it produces best and trade the surplus of what it does not need for the surpluses of others. In that way the

benefits of world production are maximized, Japan and the United States now enjoy many of the benefits of such a relationship.

Here are two dramatic examples of what I mean:

- Japan is buying large airplanes from the United States—and is selling to the United States small executive aireraft.
- Japan is buying huge American computers and exporting to the United States small Japanese desk computers and calculators.

This pattern of exchange is mutually beneficial. It has been nourished by increasingly liberal economic policies on the part of both Japan and the United States.

This, indeed, is the central issue in our current economic misunderstandings. The United States is concerned whether Japan is liberalizing its trade and investment policies fast enough; Japan is concerned about the rise of protectionist sentiment in the United States and possible threats to future world trade of a protectionist U.S. trade policy. It is a question of speed on the one hand, and on the other hand a question of the fundamental direction in which U.S. policy may be moving.

It is true that Japan's economy has been growing faster the last 10 years than has any other advanced industrial economy in the world. It is equally true, but not often realized, that Japan is also liberalizing its economy at a faster rate than is any other nation in the world. That pace has been especially rapid in the last 2 years.

Japan has been a participating member of the international community for only 100 years, since, one might say, the visit of Commodore Perry. Thus we have been concerned by the need to catch up with the West in modernizing our economy, improving living conditions for our people, and developing an adequate infrastructure of public ser-

vices-power, roads, housing, sewerage, schools, et cetera.

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We are still far from caught up. Although Japan has the third largest economy in the world in gross output, it ranks only 16th in per capita income. Despite this gap, and despite truly monumental problems of urban crowding and pollution, Japan is now facing up to its responsibilities and rapidly opening its economy to the full brunt of foreign competition. This is an irreversible commitment. By this time next year, according to present schedules, Japan's degree of import liberalization will compare favorably with that of most other major industrial nations.

It is our earnest hope that the United States, which has led the world movement toward freer trade for the past 35 years, will also remain faithful to this goal. Any backward step toward protectionism on the part of the United States could have unfortunate consequences, not just on United States-Japanese trade, but on the entire world trading system.

In conclusion, gentlemen, may I say that it would be utopian to expect no problems at all in the close relationship that exists between our two countries. I am confident, however, the problems we have can be solved, provided we give due consideration, not only to our respective common interests, but also to the enormous impact that the United States and Japan together have on the rest of the world. We are, after all, the two largest economies in the free world. Together we produce nearly half of its gross product. It is, thus, of the utmost importance to the rest of the free world that the United States and Japan continue to maintain a stable and productive relationship.

Japan has reemerged as a major world power in the economic sense and is accepting the responsibilities that go with this power. Japan's means will necessarily be its own, and there will no doubt be other occasions when our two countries will approach problems differently. Since our long-term aims are compatible, however, surely we can work out our short-term differences. In fact, it is healthy for two great and powerful nations to be competitors as well as cooperators. Ours is at last becoming a relationship, not of automatic allies, but of mature and dynamic partners. This is the real meaning of the "new era" in our firm and close alliance.

In President Nixon's words to my Prime Minister a little over a year ago:

The Pacific and Asia is the area of the greatest promise and also of the greatest peril. Whether Asia and the Pacific become an area of peace or an area of devastation, for Asia and the world, will depend on what happens between the United States and Japan more than between any other nations in the world.

It is our responsibility to see that what happens between our two countries is to develop the *promise* of which President Nixon spoke.

To this end, Japan is ready to be a strong, but peaceful, partner of the United States. To conclude in the words my Prime Minister spoke to the U.N.

BIOGRAPHIC SUMMARY



Ambassador H.E. Nobuhiko Ushiba was educated at the University of Tokyo and has had a distinguished career in the Japanese Ministry of Foreign Affairs. His most recent assignments have been as

Director General of the Economic Affairs Bureau of the Ministry of Foreign Affairs, Ambassador to Canada, and Viće Minister for Foreign Affairs. Ambassador Nobuhiko Ushiba recently assumed his present position as Japanese Ambassador to the United States. General Assembly in October of last year:

World history has shown us that countries with great economic power were tempted to possess commensurate military forces. I should like, however, to make it clear that my country will use its economic power for the construction of world peace, and we have no intention whatever to use any major portion of our economic power for military purposes. It is the firm conviction of us, the Japanese people, based upon our invaluable historical experience, that only through the defense of freedom, adherence to peace and the promotion of the prosperity and peace of the world, will it be possible for us to ensure the security and prosperity of our own country.

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The Japanese have won in a single generation the right to stand abreast of the foremost and most enlightened peoples of Europe and America.... We have as much to learn from Japan as Japan has to learn from us; and no nation is fit to teach unless it is also willing to learn.

Theodore Roosevelt, Sixth Annual Message to Congress, 3 December 1906; Messages and Papers The professional education of military officers has been criticized by knowledgeable people from both within and out of the military services. As an educational tool, the computer offers a unique device in the educational process, one which, if thoughtfully employed, could make significant contributions in areas causing concern among military educators. In this article the authors discuss the current status of computer-based educational technology in the military and offer some proposals on the next steps in this field.

IMPLEMENTING NEW EDUCATIONAL TECHNOLOGY

FOR THE MILITARY

An article prepared

by

Dr. Edward B. Roberts and Mr. Henry B. Weil

A New Approach to Military Education. An increasing number of thoughtful military educators are calling for innovation in their field. This stems from a combination of dissatisfaction with present practices and a foresight that causes them to question whether approaches that seem quite appropriate today are satisfactory for meeting the future's requirements. And it is striking that many of their suggestions have much in common.

Here are a few examples. Rear Admiral Eccles has argued strongly for the development of a comprehensive military theory to serve as an integrating framework for War College curricula. He asserts that the preoccupation of higher military educational institutions with being "preparatory schools for Pentagon duty" has led them to abdicate the intellectual initiative to civilian universities and "think tanks." To quote Admiral Eccles, "Professional military intellectual leadership has declined both in substance and in authority."

Vice Admiral Hayward, former President of the Naval War College, has expressed a very similar point of view.² Admiral Hayward feels that "Education programs have tended to lag behind the military leader's present environment, let alone anticipate the challenges he will face in the future," fle called for broad professional education covering all the components that influence our national strategy and objectives. And he asserted, "It is in these areas where we must educate rather than in the 'knobology' of green or buff papers or the mechanics of the Joint Staff daily routine."

Professor William D. Coplin of Syracuse University's Maxwell School (a consultant in the area of politico-military gaming to the Industrial College of the Armed Forces) has stated that mideareer education of already experienced military officers should offer: (1) exposure to a new type of decision environment, i.e., the "soft" decisions that are made at the national policy

level; and (2) a big picture perspective for people who heretofore have always worked on just a part of the overall system.⁴

These, and other commentaries like them, seem to have several elements in common:

- 1. They criticize an alleged overemphasis of military education with organizational and procedural details (Admiral Hayward's "knobology");
- 2. They point to the diversity of knowledge that an institution of higher military education ought to be teaching (the "comprehensive theory," "broad professional education," "hig picture," et cetera) and to the absence of integrating vehicles for trying it all together.
- 3. They lament the paucity of new conceptual insights coming out of the system of higher military education.

These points may sound very familiar, because not too many years ago they were directed with considerable justification toward the process of management education. Yet more recently, forward thinking management educators have made significant progress along all of these fronts. And they have done it through more enlightened application to their own activities (i.e., the generation and transfer of knowledge) of some of the same technologies they are espousing for the solution of managerial problems. Out of this has emerged the computer as a powerful high-level educational tool, supplementing its long-recognized utility as an analytical tool.

The Computer as an Educational Tool. What, precisely, do we mean by the computer as an "educational tool" (as distinct from an aid to analysis)? And what contributions have already been or can be made by this technology in the three areas of concern enumerated above?

Talking about the computer as an educational tool is a shorthand way of

referring to the technology's ability to enhance the teaching of certain classes of lessons and to enhance the management (directing, pacing, scheduling, testing, et cetera) of educational processes. The former role is most relevant to the points raised above. In that role the computer acts as a teaching medium: presenting facts, illustrating principles, and offering students an opportunity to explore cause and effect relationships. A number of specific examples are discussed below; efforts to date largely fall into one of the two broad categories of "programed instruction" or "gaming."

The critical difference between this educational role and the technology's traditional role as an analytical tool is the difference between active and passive. An effective computer-based educational medium is actively trying to teach a series of predefined lessons (facts, concepts, principles, algorithms, ct cetera). And a significant portion of the teaching strategy is inherent in the medium. As an analytical tool, on the other hand, the computer is an available capability that facilitates solution of more complex problems. But the capability is merely there for the using. It does not actively seek to teach any broad lessons.

Computer-based educational technology of this sort, when thoughtfully employed, has made considerable contributions to education in other fields. And (again, if thoughtfully employed) it can make quite significant contributions in the areas now causing concern among military educators.

Current Status of Educational Technology in the Military. Computer-based programed instruction (computer aided instruction, or CAI for short) is presently being employed to teach various kinds of structured knowledge: foreign languages, scientific subjects, organizational relationships, and standard operating procedures. Much of the

"knobology" (which, given the current facts of life, an officer indeed must learn in order to be effective) should be taught through this medium. In the presentation of structured knowledge, repetitively, to large audiences, CAI is a considerably more efficient teacher than traditional media. Its broadened use would significantly reduce the proportion of his educational experience that an officer would have to invest to acquire this structured knowledge.

We recognize that the Navy is undertaking a number of important efforts in the CAI field, At the Naval Academy, for example, a number of CAI-based courses are being developed, tested, and refined in areas that broadly cover the curriculum: chemistry, modern physics, naval operations analysis, introductory Russian, and thermodynamics. The Naval Academy's experiments in multimedia course development are truly a pioneering endeavor. Here, three contractors are developing instructional materials and management tools (for progress monitoring, scheduling, porting, et ectera) for prototype courses in physics, economics, and naval leadership. These materials employ such diverse media as human instructors, CAI, TV, tapes, programed instruction, films, slides, texts, and special devices. And the Naval War College itself has recently implemented programed instruction approaches to teaching the planning process and other areas.

Computer-based gaming is another form in which this technology is being applied to educational processes. As an educational medium, the computer game has great potential for teaching complex cause and effect relationships even more effectively than actual experience. Yet, at present, civilian management education is far ahead of military education in recognizing and realizing this potential.

Gaming, of course, is nothing new to military education. It was invented there. War gaming was first introduced

at the Naval War College in 1886 and became a regular part of the curriculum in 1894,6 These games were played at the strategic level with pins and symbols on charts; at the tactical level, it was done with miniature ships on a large "mancuvering board," Battle plans were prepared by both sides within the framework of the game secnario. Play was subjectively evaluated after the fact by a panel of experienced officers. Physical facilities for military gaming bave been upgraded as technology and resources permitted. At the Naval War College this first meant larger maneuvering boards and miniature fleets and then later the NEWS electronic manenvering board system.

The current state of the art in games for military education is illustrated by such diverse examples as: the TEMPO resource allocation game; SIR (Simulated International Relations), developed by two Naval War College students; Monopolog, an Air Force logistics game; Politica, a game about revolution in Latin America; the TEMPER global cold war game used in past years at the Industrial College of the Armed Forces; and WPS (World Politics Simulation) presently in use at ICAF. One can make a number of generalizations about the current population of games that, really, summarize the present conceptual approach to military gaming as an educational technique:

- 1. Their principal objectives is to provide exposure to decisioumaking situations:
- 2. They are seen as *experience*-giving devices, not as teachers of specific predefined lessons:
- 3. They emphasize detail and realism to make the "exposure" and "experience" as lifelike as possible;
- 4. They require significant subjective direction and adjudication by human referees;
- 5. They are competitive, with "winning" (in one way or another)

vying with learning for the student's time and energy;

- They emphasize role playing:
- 7. There is not very much time compression;
- 8. Computers, where used, are employed either for "bookkeeping" (data storage or simple calculations) or status representation (display generation, et cetera);
- 9. They are developed and employed as a distinct and separate part of the educational program, often as a final exercise.

Proposed Next Steps in Military Educational Technology. In the field of civilian management education, we have come to realize that gaming technology is much more effective as an active teaching medium than as a synthetic, but highly realistic, experience-providing environment. And we have found (as the information systems people have also found) that computer technology permits much more than simply automating traditional methods.

Exploited to its fullest, computer gaming enables us to teach classes of lessons that really cannot be practically taught through any other medium-even actual experience. These are lessons about cause and effect in complex political/economic/social where relationships are too obscure and complicated to be deduced intuitively and where real world "experimentation" is a practical impossibility. In the case of an international politico-military game, such lessons might include:

- 1. Why international agreement on common goals does not necessarily produce compatible national foreign policies;
- 2. Why different "actors" in the international scene can make such widely varied interpretations of the same situation;
- 3. How misinterpretation of the actions of others can produce serious political-military problems;

- 4. How domestic politics affect international relations and conflict;
- 5. Why it is useful to have "neutral" international forums like the U.N.

In addressing questions of this sort, computer gaming can provide an integrating framework for the broad body of knowledge that a military officer must acquire. The kinds of lessons that gaming teaches best are lessons that tie together the traditional functional areas of study, i.e., planning, military operations, international relations, budgeting, law, politics, et cetera. And a good game forces the student "... to cope with the simulated reality and then . . . to step back and evaluate that reality in terms of his assumptions of the real world."8 Thus, the effective game causes the player to recvaluate his own intuitive "model" of cause and effect.

Karl Deutch (of Harvard) stressed these points in a recent discussion of politico-military gaming.9 Among the most important benefits of a wellconceived educational game he included:

- 1. It stimulates student interest, thereby increasing learning efficiency;
- 2. It highlights certain conceptual lessons that are difficult to teach through alternative media;
- 3. It provides an opportunity for student "discovery" of "new" cause and effect relationships;
- 4. It provides a vehicle for selfcriticism, something that is very difficult to do objectively under the stress of real world situations;
- 5. It provides an opportunity to recognize mistakes openly and to learn from them without inhibitions;
- 6. It can be systematically refined through repetitive use and evaluation.

To be effective as an educational tool of the sort just described, gaming must be an integral part of the student's total learning experience, not a separate exercisc. Quoting Professor Coplin again, gaming should be made

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... an integral part of the curriculum by relating certain aspects of simulation . . . to relevant auditorium presentations, instrucdiscussion sessions, studies, and reading materials. Assignments which attempt to force the student to relate his simulation experience to opinions of experts on particular topies can provide a learning experience which is not a matter of photocopying details but rather includes re-evaluation of the student's and the experts' assumptions about a world in which he will be making increasingly important decisions. Those who are traditionally concerned with curriculum could be most helpful by using . . . simulation to teach what they want it to teach . . . 10

Lastly, this type of game has some important characteristics that differentiate it from the present population of military educational games:

- 1. It is noncompetitive, in the sense that success is not measured by "winning" per se, but by increased understanding;
- 2. It is not overly concerned about detailed realism, but rather seeks an appropriate balance between simplicity for teaching's sake and enough realism to make the lessons credible;
- 3. It emphasizes causality, in the sense that it explicates and encourages the probing of cause and effect relationships and seeks to develop generalized understanding of how things interrelate and why things happen the way they do:
- 4. The cause and effect linkages that produce responses to player decisions are explicitly represented in the structure of such a computerized model, not implicit in the interplay of students in various roles or produced by the reaction and intervention of a human control team. In fact, the nature of

these linkages and their implications are the main lessons that this type of game teaches! And this causal structure can be made explicit only with the help of a computer;

5. Significant time compression (of the order of 400:I to 1000:I) permits players to see the long-term implications of their decisions.

Summary and Direction. In summary, we are proposing a new approach to military education that is relevant across the entire spectrum of the Naval Command and Staff Course, the Naval Command Course, the Naval Warfare Course, and the Senior Officers Managemeut Course, to use Naval War College courses as examples. Central to this approach is the use of computer gaming as an active teaching tool-to teach specific predefined lessons as an integral part of a student's total learning experience. And these lessons would be of a general cause and effect sort that will tie together a diversity of knowledge from many sources.

This approach is directly responsive to the aforementioned concerns about overemphasis of procedural details, integration of curriculum, and lack of new conceptual insights. In the last regard we are quite confident that the process of developing and using games of the type being discussed will produce a clarification and refinement of causal hypotheses—and the flow of new insights that critics are demanding.

The proposed approach is not a repudiation of past and present efforts. Rather, we feel that it represents a natural evolutionary step in military education that is already underway in other areas. To implement the approach at an advanced military school such as the Naval War College, a task force could be established, drawn broadly from the War College community, including representation from the administration, the civilian and military faculties, the ADP and war gaming

specialists, and the student body. It should also utilize outside experts, as needed, in the areas of advanced educational concepts and educational hardware and software technology.

A broad involvement of this sort is essential if the many relevant points of view, expertise, and follow-through authorities are to be mobilized and involved—as they must be in an endeavor of such importance. It is important that such an educational task force act with knowledge and authority in deliberating alternatives and making recommendations.

The Task Force on Educational Technology would serve a number of interrelated functions:

1. It would be an assemblage of considerable and diverse expertise in the area of military education and relevant technologies. In this role the task force will serve as a working body of experts (representing various points of view) that would take on a series of important policy issues;

It would be a group that includes people with the responsibility and (in most cases) the authority for accepting and implementing whatever recommendations are produced. In this role the task force would serve as a medium through which responsible individuals will actively participate in the process of innovation and change. This should produce recommendations that are fully understood. accepted, and supported by those who will have to live with them. This is far better than the much more typical case where the responsible individuals are being "sold" a single predetermined set of recommendations by some third party;

3. It would serve as a managing and directing body for a series of "subteams" working on selected projects in more depth and detail.

The type of task force envisioned could be constituted immediately and might begin an oriented review of the entire War College curriculum in search of appropriate opportunities to exploit the teaching capabilities of computer-based gaming. As these opportunities begin to appear, they should be assigned to "subteams" for more detailed investigation and development of educational strategies: specific lessons to be taught,

BIOGRAPHIC SUMMARY



Henry B. Weil received his S.B. and S.M. from MIT's Sloan School of Management. A lieutenant in the U.S. Naval Reserve, he served on artise duty from 1967 to 1969 assigned to the staff

of the Secretary of the Navy, the staff of the Special Assistant to the Secretary of the Navy, and the Office of Information Systems Planning and Development. Mr. Weil has been active for some years as a consultant, applying management science techniques to policy and strategy issues in business and government. One of his specialties is the field of computer simulation and gaming. He is presently a principal in Pugh-Roberts Associates, Inc.

BIOGRAPHIC SUMMARY



Professor Edward B. Roberts received four degrees from the Massachusetts Institute of Technology, including an S.B. and S.M. in electrical engineering in 1958, an S.M. in management in 1960, and a Ph.D.

in economics in 1962. He has served in all faculty ranks at MIT, culminating in promotion to Prolessor of Management at the MIT Sloan School in 1970. Dr. Roberts is active in government and industry, serving among other positions as president of Pugh-Roberts Associates, Inc., a member of the U.S. Department of Commerce Technical Advisory Board, and former member of the Air Force Scientific Advisory Board. In 1969-70 he occupied the James V. Forrestal Chair of Military Management at the Naval War College.

specifications for games, integration into the present syllabus, et cetera.

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Subteams would be staffed principally by interested and qualified NWC students (with assistance as needed from task force members). A master's degree in computer sciences, operations analysis, education, or some other relevant area would certainly "qualify" an interested student, Student participation in this effort could be in lieu of some regular course work (which their advanced qualifications would make less important) and might, in fact, be organized as a special research seminar directed by a task force member. To provide an incentive for involvement, as well as strengthened in-house implementation capabilities, some student participants could be offered an opportunity to pursue their gaming work after graduation through I-year assignment to organizations like the Joint War Gaming Agency and the Center for Naval Analysis.

One year of effort along these lines

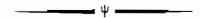
should result in several principal end products:

- 1. A several years program of curriculum development aimed at an integral use, wherever appropriate, of computer-based educational tools;
- 2. Detailed plans for a limited prototype implementation of this educational approach (one or two experimental courses) during the following academic year;
- 3. One or more demonstrable educational games of the sort described previously, to serve as (or be developed into) teaching aids for the prototype courses mentioned above.

The tradition of leadership and innovation in educational technology that started years ago in the Naval War College needs to be reaffirmed if military education is to keep pace with the demands for more sophisticated officers, able to cope with more complex environments. The approach outlined above provides an implementable basis for initiating the needed response.

FOOTNOTES

- Henry E. Eccles, "Military Theory and Education," Naval War College Review, February 1969.
- 2. John T. Hayward, "The Second Class Military Advisor: His Cause and Cure," Armed Forces Management, November 1968,
- 3. "Soft" here inerely suggests difficult to specify and to analyze in a rigorous quantitative way.
- 4. William D. Coplin, "It's Time for All to Ponder," Perspectives in Defense Management, December 1969, p. 55-57.
- 5. Numerous references to computer games in a variety of fields are included in "Simulation and Gaming: a Symposium," AMA Management Report No. 55 (New York: American Management Association, 1961); C.J. Craft, et al, Management Games (New York: Iteinhold, 1961); A.G. Dale and C.It. Klasson Business Gaming: a Survey of American Collegiate Schools of Business (Austin: University of Texas Press, 1964); Clark C. Abt, Serious Games (New York: Viking, 1970).
- 6. A history of war gaming at the Naval War College can be found in Francis J. McHugh, "Eighty Years of War Gaming," Naval War College Review, March 1969, p. 88-90.
- 7. This varies quite a bit from game to game, but few come close to the 400:1 compression (1 year simulated per day of play) common in the most effective management games.
 - 8. Coplin.
- Karl Deutch and Dieter Senghaas, "Simulation in International Politics: How to Get Your Money's Worth," Perspectives in Defense Management, March 1970, p. 37-40.
- 10. Coplin. Also see William D. Coplin and Fred R. Brown, "The World Politics Simulation at the Industrial College," Perspectives in Defense Management, June 1969, p. 39-43.



Part II of this biography picks up with a letter of reprimand that Commander Spruance had received from the Secretary of the Navy. His experiences as a student and two subsequent tours on the faculty of the Naval War College made him a master artisan in the profession of naval warfare. Admiral Spruance's performance as a commander in the Pacific is described as classic in the application of the art of naval warfare.

ADMIRAL RAYMOND A. SPRUANCE AND THE NAVAL WAR COLLEGE PART II—FROM STUDENT TO WARRIOR

An article prepared

by

Lieutenant Commander Thomas B. Buell, U.S. Navy School of Naval Command and Staff

Conclusion. In part I of this paper Spruance had been ordered to the Naval War College as a student in 1926, and he had completed the first 6 months of the academic year. Shortly after New Year's Day, 1927, he received a letter of reprimand from the Secretary of the Navy, holding Spruance responsible for the mismanagement of the general mess of his former command, U.S.S. Osborne.

The Letter of Reprimand. The letter of reprimand was harsh and damning. It could have meant the end of Spruance's career. He felt it was unfair, and he decided forthwith to challenge its accusations and to defend his reputation.

The crux of the episode was that Spruance had a dishonest commissary steward who had stolen provisions and falsified records and had fled the Osborne shortly before Spruance had been relieved on 15 July. When it had become apparent that the steward was

an unauthorized absentee, his records were examined, revealing that the ration allowance was overexpended about \$3,900. In other words, the steward had spent \$3,900 for food which had not been consumed nor accounted for by inventory. The Secretary of the Navy blained Spruance, charging that his lack of supervision had enabled the commissary steward to pursue his dishonest practices.

Spruance defended himself vigorously. The Board of Investigation had found no fault in Spruance's supervision of the Osborne commissary department. In Spruance's view, the fault lay with the commissary officer, whose job it was to supervise the commissary steward's activities. Shortly after taking command, Spruance had discovered that the commissary officer was careless in his bookkeeping. Spruance had admonished him to keep more accurate records and then assumed that this warning would be sufficient. It was not,

and the commissary officer's negligence and inattention allowed the commissary steward to embezzle the commissary funds. Spruance concluded his rebuttal by saying that he was not disclaiming his responsibility as a commanding officer, but rather was questioning whether that responsibility included his detailed supervision of a supposedly competent and experienced commissary officer.

Iu the case in question, I cannot but feel that I had a reasonable justification for believing that the commissary officer, who had no press of other duties and who had been specially cautioned as to the necessity for care in making up his records, would perform the elementary duty of keeping a record of the bills outstanding and paid. Had he done this, the dishonesty of the commissary steward would have been discovered when it first occurred in March, 1926. 1

Having submitted his rebuttal, he could only hope for the best. The fate of his career would be in the hands of the selection board which would consider him for promotion to captain in about 4 years. He later wrote a letter to the Chief of the Bureau of Navigation inviting attention to his letter of rebuttal, thereby inviting the attention of the selection board as well.² He was undoubtedly encouraged when he was ordered as Executive Officer of U.S.S. Mississippi 2 years after graduation from the War College, an excellent billet indicating the Navy had faith in him. Despite his conviction that the reprimand was unjust and that his performance of duty merited promotion to eaptain, he became progressively worried and disturbed as time for selection drew near. Selection boards are unpredictable, and he felt the reprimand might well deny his promotion. To Spruance's relief, the board apparently

disregarded the reprimand and, obviously impressed with the remainder of his record, selected him for promotion to captain. Once selected, he dismissed the letter from his mind and never again thought about it.³

This incident illustrates a potential risk in Spruance's command modus operandi. During the Pacific war he placed great faith in his subordinates. Having told them what he wanted done. he trusted them to do the job in their own way with a minimum of interference and supervision from him. Subordinates were grateful for Spruance's trust and support and responded with intense loyalty-they were inspired to use their initiative and not to fail Spruance.4 This system works when one has competent subordinates. It can fail if a subordinate is incompetent and violates the trust of his commander. Spruance's unhappy experience with the Osborne commissary officer could have made him everlastingly suspicious and distrustful of his officers. But he obviously felt that the benefits of trusting his subordinates justified the risk of an occasional betrayal of that trust.

The Theses. Having disposed of the letter of reprimand for the moment, he returned to his War College studies. Although the war games demanded much of his time, there were other subjects requiring his attention as well. Although Pratt had deemphasized thesis work, he still required a "Thesis on Command" and a "Thesis on Policy" from each student,5 This was a particularly onerous chore for Spruance, because he disliked writing and never wrote unless absolutely necessary.6 However, when he did write he expressed himself succinctly, clearly, and well.

In contrast to today's voluminous War College *Thesis Manual*, Spruance and his colleagues were guided by a one-page memorandum containing a suggested thesis outline and a recom-

mended bibliography.* In writing his "Thesis on Command," Spruance followed the outline without deviation and apparently referenced the standard authoritative publications of the day. The result was conventional, uninspired, and contains little to suggest the precepts by which he would later exercise command as a flag officer. Rather he did only the minimum necessary to fulfill the undemanding thesis requirements. It was read by the chief of staff and two staff officers and was returned without comment

His "Thesis on Policy" was a study of contradictions. The War College wanted the thesis to include economic and political aspects of American forcign policy plus foreign policy in Central America and the Caribbean. The result was a conflict between Spruance's allegiance to the ideals of American democracy and his awareness that American foreign policy had violated these ideals time and again.

He wanted to believe that altruism governed American foreign policy, but he could not reconcile acquisition of the Panama Canal Zone and meddling in Latin American government affairs to any other cause other than expediency and self-interest. He understood and regretted the inevitable Latin American hostility. Another example of his idealism tempered by his pragmatism is contained in his views of the American promise of eventual Philippine independence.

No other country in the world has ever taken such an altruistic stand in connection with a territory which it has acquired by conquest or purchase. Whether this policy would stand if the Philippines were to develop into a great rubber producing country and every American had a personal interest in their retention under the American flag, is another question.⁷

He became even more contradictory when considering the Far East, The United States professed to respect the sovereignty of China, yet he believed that foreign countries had a right to exploit China (the "Open Door" policy). He justified the use of American Armed Forces in that country because force was used "... without feelings of hostility toward the people or countries involved, and without any desire to take unfair advantage or to obtain territorial concessions." He wanted a stable, friendly, yet subservient Chinese Government; should it become anti-Western it would "... force the Powers to intervene to protect their treaty rights and the safety of their nationals, "8

He concluded his thesis in a flurry of contradictions. The United States was taking an ever-increasing role in world affairs and would be guided by the interests of peace and justice, Unfortunately, current American foreign policies had made the United States unpopular in certain European countries. Time would soften this animosity, and the real purposes of American policy would be everywhere appreciated. Then the final contradiction. "The foundation of American foreign policies in the past has been self-interest, but the adoption of most of these policies by an unwilling and skeptical world has proved that their authors were farsighted statesmen, who were content to seek a permanent benefit rather than a temporary advantage." Finally, he quoted a 1906 statement by Secretary of State Root as the essence of American foreign policy. 10 Root's statement is a classic of pious hypocrisy, and it strains one's credulity that Spruance believed it.

^{*}The typical 1926 War College thesis was neither scholarly nor academically rigorous and would be regarded today as an informal treatise.

Spruance's "Thesis on Policy" is puzzling. He is credited with intellect, clear thinking, and sound reasoning, yet none of these are evident in the thesis. His reasons for writing as he did must remain conjectural; the thesis is an inexplicable anomaly.*

Logistics.# One of Pratt's greatest contributions to the Naval War College as President was the establishment of a course in logistics. Over the years the Navy had developed a grand strategy against Japan that included extended operations, long lines of communication, and the movement of an overseas expeditionary force. The means by which those forces would be logistically supported had been generally ignored.

Pratt was determined to force his students to study logistics. Shortly after he took over as President, he assigned a civil engineer, Capt. R.E. Bakenhus, the task of preparing an intensive course in logistics for the War College Class of 1927. Bakenhus had to be ready by late 1926.

After more than a year of preparation, Bakenhus presented the course to the students on 1 December 1926. Its scope was staggering. Spruance and his classmates would study logistics from raw materials in mother earth, to the manufacturer, through distribution, to the eventnal consumer. They were issued a bulky jacket of pamphlets covering every conceivable aspect of logistics. Bakenhus and his staff had

been forced to originate all the pamphlets on naval logistics because nothing else was available. An embarrassing revelation was that the Navy had published nothing on logistics in general, nor on marine transportation of troops and supplies in particular. The Army's General Service School at Fort Leavenworth, on the other hand, had for years been studying the logistics involved in overseas expeditionary operations. Bakenhas had simply reproduced the Army's written doctrine of this subject and issued it to the students. It contained such information as merchant ship eargo capacities and the use of these ships to transport military personnel and eargo. The Navy was entirely ignorant on this subject.

The Army doctrine had been based on the assumption that they would go it alone when transporting troops and supplies overseas. Pratt was appalled at the thought of the Army performing a naval task. He realized the need for developing joint Army-Navy coordination for overseas expeditions and had established liaison with the Army War College for exploratory talks on the matter. ¹¹ In the meantime he told Bakenhus to develop a doctrine for joint Army-Navy action, but it was incomplete when the logistics course began.

In addition to assigned reading, the students would hear nine lectures that were informative in nature and designed to broaden their viewpoints. Broad indeed, for one lecture by a Dr. E.O. Baker was entitled "The Trend of Population and Agricultural Population Production in the United States." But Pratt would not let the students simply read and listen. They would also study logistic strategy problems and would include logistic planning in their war gaining exercises. It was clear that Pratt would force-feed them logistics, and Bakenhus was his executor. Everything that Bakenhus and his staff would teach had "... met with the approval of superior authority in the War College."12

^{*}He does seem to be heavily influenced by Mahan's theory of mercantile imperialism, which advocated aggressive trade in foreign markets, and Mahan's strategic theory that the United States must dominate the entire Western Hemisphere, geographically, politically, and economically. See Vineent Davis, The Admirals Lobby (Chapel Hill: University of North Carolina Press, 1967), p. 106-144.

[#]Primary source material for this section is contained in numerous War College pamphlets, lectures, memoranda, and committee reports. Individual footnotes will be sparingly osed to avoid distracting the reader.

The students' logistic strategy studies were generally well done, but their logistic planning for their 1927 major BLUE-ORANGE war game was pathetic. Pratt had forced them to think about the logistic requirements in a war against Japan. He demanded that their solutions include an annex containing a logistic plan that would support the contemplated operations. However, the students had neither the time nor the expertise to give logistic planning more than superficial treatment. They were to discover later that the problem would not go away as the BLUE-ORANGE war game would vividly demonstrate the need for logistic planning and support,

Spruance and his classmates would leave the War College with at least an awareness of the vital need for logistics in naval warfare. Logistics was uppermost in Spruance's mind during the Pacific war, ¹³ and later as President of the War College he reestablished a course in logistics. Unfortunately, the War College ceased teaching logistics after Pratt's administration, and the Navy was woefully unprepared when World War II began. ¹⁴ Pratt had been a lone voice crying in the wilderness.

The Committee System. The problem work in logistics inaugurated another Pratt innovation, the committee studies, the forerunner of the presentday War College group research projects. He eliminated the perennial strategy and tacties theses and established a committee system for the study of strategy, logistics, and the tactics of actual battles and campaigns. The students were assigned to committees which would study assigned subjects over a period of several months, followed by oral reports in May summarizing their findings and conclusions, This program worked exceedingly well. More subjects were studied in greater depth by the committee method than were possible by individual thesis efforts. 15

The students were divided into six

committees for the logistics study, with subjects of profound import. The committee chairmen then divided their respective subjects into topics and assigned subcommittees for each topic. Spruance's committee would study "Strategic Raw Materials," and he and a lieutenant in the junior course, Raymond A. McClellan, were assigned the topic of "Strategic Raw Materials in a War against Japan and England as Allies."

The students labored over their logistics studies for many months, and the results were mixed-the reports were good, bad, and indifferent. They relied heavily on published Army data to discover just what the strategic materials were; apparently the Navy had never before given the subject much thought, The students were acutely concerned with the numerical inferiority of American cruisers, which they considered the primary weapon for either denying or protecting the movement of strategic raw materials by sea. The potential of submarine warfare against enemy commercial shipping was not considered despite the near success of German submarines in World War I.* And as the students did not regard submarines as a dangerous menace, they likewise failed to consider antisubmarine warfare. In fact, the whole problem of submarine and antisubmarine warfare was never fully appreciated at any time by the Naval War College before World War II. The Battle of the Atlantic and submarine warfare against Japanese commerce had never been played on a War College game board. 17

^{*}One of Spruance's War College classmates, Comdr. Ernest D. MeWhorter, studied German World War I submarine warfare. He acknowledged that the Germans had nearly starved Great Britain but had never properly understood how to best use their submarines. He then came to the curious conclusion that submarines should be used against capital ships rather than merchantmen.

Spruance and McClellan turned to on their logistics study. It was approached with a scrious attitude, and the two met often for discussion and composition of the paper. Spruance was considerate of McClellan, put him at ease, and encouraged him to express his views freely: McClellan in response hecame impressed with Spruance's fairness, intellect, and logic. McClellan gained the impression that Spruance was totally engrossed in his profession. As time for the May oral presentation of their report drew near, Spruance and McClellan put on the finishing touches. Spruance had asked McClellan to give the presentation, and when the first rehearsals were a minnte too long, they eliminated two paragraphs. Spruance wanted to use no more and no less than the allotted 12 minutes. "A real perfectionist," concluded McClellan. 18

The report was a vast improvement over his theses. It was succinct, informative, thorough, authoritative, and presented credible conclusions. It was the best report within his committee and was among the best of all the committee reports. It began by recognizing that a war against Japan and Great Britain was the worst possible case, but there was no air of pessimism. Rather it pragmatically stated what the United States would face and what it must do. It identified the essential raw materials. their sonrees, and the trade routes used for their transportation. Recommended covert methods to defeat blockades and embargoes were particularly shrewd and clever. It also advocated that the United States stockpile raw materials at home, develop new sources in the Western Hemisphere, and develop processing and manufacturing plants in the United States and the Western Hemisphere. Whereas the other reports addressed only what the United States must do to protect its trade routes, Spruance and McClellan developed strategy for carrying the war to Japan and Great Britain. As with all other

reports, however, cruiser warfare rather than submarine warfare was the accepted method for raiding enemy scaborne commerce.¹⁹

Another committee project was the study of the strategy and tactics of carlier naval wars. Spruance's committee would study the Russo-Japanese War of 1904-1905. Within the committee Spruance and Lt. P.P. Welch would study and report on the tactics used at the Battle of Tsushima.²⁰ The full committee did a first-rate joh of studying the war. The tenor of their reports was that if the United States was ever to fight Japan, it would face the same strategic handicaps as did Russia. Hopefully the United States could profit from the Russian mistakes.

The war had several impressive aspects. First, the Japanese were good fighters and would be a tough enemy in any war. Second, they would start war with a sudden, surprise attack. Third, they would fight a war of attrition and would attack an enemy fleet when it was weakened and overextended. Lastly, the United States, as with Russia, would be severely handicapped by long, exposed lines of communication.²¹

The committee was given an hour for its May oral report, and Spruance and Welch were given half the period for their presentation. Spruance characteristically let Welch do the talking.* The Battle of Tsushima was analyzed, stressing the nine principles of war as was enstomary with most War College

^{*}Spruance told the author in June 1963 that he disliked public speaking and avoided it whenever possible. The 1930-era War College students remember him as a dry and conventional public speaker. Invited to address the National War College in 1947, he wrote Carl Moore that "I have written a paper which is dull and cannot compete in interest or excitement with the Army Air Force's visions of the future." (Spruance to Moore, 2 January 1947).

analyses. Spruance was apparently enamored with these principles and used them again when he taught tactics at the War College 10 years later.²²

There were several features of the battle which would influence him in World War II. First was the concept of allowing subordinate commanders freedom of action and exercise of initiative in carrying out the commander's plan. This was the keystone to Spruance's success as a fleet commander. He first recognized it in 1927 when he said, "The most noteworthy feature of the Iananese tacties was the freedom of action allowed the division commanders in carrying out the plan. Each division retained freedom of movement, Rigidity of formation was subordinated to flexibility of mancuver."23 Spruance was also impressed by Admiral Togo's coolness, patience, and great presence of mind in the stress of battle. Togo had successfully persevered in his original plan of attack and did not yield to thoughtless, impetuous actions which Spruance would have censured.24 Spruance, of course, became famous for his calm behavior and clear thinking in battle and his perseverance in conforming to his original plan of action.

And finally, he would never forget the tactics used by Togo. They would influence one of the most important decisions he would make in World War II, the decision as to how he would fight the Japanese at the Battle of the Philippine Sea. In his words,

As a matter of tactics, I think that going out after them [the Japanese fleet] and knocking their earriers out would have been much better and more satisfactory than waiting for them to attack us; but we were at the start of a very important and large amphibious operation and we could not afford to gamble and place it in jeopardy. The way Togo waited at Tsushima for the Russian fleet to

come to him has always been on my mind. We had somewhat the same basic situation, only it was modified by the long range striking power of the carriers.²⁵

By far the most ambitious use of the eommittee system was in solving strategic problems that would later be played as war games. Pratt had radically changed the Estimate of the Situation with the Order Form, and it now demanded that solutions contain detailed planning never before attempted. Individuals could not possibly solve the problems by themselves. Not only were the solutions more exacting, but the problems were also more complex. Pratt wanted an amphibious assault problem, including details on debarkation and shore fire bombardment support. The need for logistic planning in the annual BLUE-ORANGE war game, mentioned carlier, was also a new and demanding requirement. A committee organization, resembling an operational naval staff, was the only answer. If it worked, it would be continued in later years.26 In retrospect, it is such an obvious way of doing things one wonders why it had not been used before. The genius of Pratt is apparent again.

The War Games Concluded.* The big war game of the year was a general war between BLUE (United States) and ORANGE (Japan). It would begin in late November and end in March. It was essentially the same problem that had been played since 1911, a period of 15 years. It had been presented annually because the War College felt it was good academic training and good preparation for the United States most probable future war. The staff hoped it would at

^{*}The primary source material related to the war games is contained in manuscript records of the history and critiques of these games. Footnotes will be sparingly used to avoid distracting the reader.

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least serve to give the students a good general understanding of the situation that some day they might be called upon to face under the actual conditions of war. The students divided into committees to develop the strategy and plaus to be used by both sides, and the most appropriate solutions would be chosen to be played on the game board. Two committees took the ORANGE side, and three the BLUE.

Spruance was on an ORANGE committee, and here he got his first hard look at the problems of a future Japanese-American war. The committee's solution was analytical and thorough. It recognized the difficulties faced by BLUE: long, exposed exterior lines of communication, need for protection for supply trains and expeditionary forces, huge logistic problems, lack of intelligence, lack of bases, and ORANGE use of islands to concentrate air strength. As ORANGE, the committee decided it would adopt as its strategy a war of attrition, with the main line of defense the Bonins-Guam-Truk axis, and would concentrate on destroying the BLUE fleet. The staff chose their solution but insisted that their planning include the capture of the Philippines.

The BLUE committees developed three different solutions: (1) Reinforce the BLUE forces in the Philippines in order to advance on the Nansei Islands and eventually blockade and isolate the ORANGE home islands; (2) sacrifice the Philippines and capture Okinawa in order to isolate ORANGE; and (3) sacrifice the Philippines and island hop across the Pacific in order to eventually isolate ORANGE. The staff summarized the solutions into two categories; proceed at once to the Western Pacific, or proceed via the Mandate Islands, providing bases to the rear as BLUE advanced westward. The first plan involved great risks with great possibilities. The second was safer but allowed ORANGE ample time to consolidate his position. The staff chose the former plan for the war game.

The war game began and Spruance was given command of the ORANGE observation forces, several divisions of cruisers and submarines. The game lasted months, and again the BLUE and ORANGE commanders were reluctant to engage in a fleet action, which would have allowed the game to transition from a chart maneuver to a board maneuver. The staff interfered repeatedly as the game progressed, beeanse they would not "...let a commonplace war drag on to a dull, inevitable finish. Our situations must be full of interest, hairbreadth escapes movie fashion, and the Staff must not be denied the right to create or precipitate new situations."

The result of the game was that BLUE got severely tronneed trying to relieve the American forces at Manila. Like the Russians at Tsushima, the BLUE fleet had arrived exhausted after a long and arduous transit. Weakened and harassed by ORANGE forces throughout, BLUE's poor material condition and total lack of logistic support made his defeat inevitable.

The students were universal in their condemnation of the BLUE strategy. The senior student, Rear Adm. George Maryell, summarized their sentiments. The decision to relieve Manila had been made to bolster the morale of the American public, but the cost of losing the fleet's fighting efficiency was not worth the dubious benefits. The BLUE fleet was in terrible shape when it got to Manila. The lack of logistic support was a great handicap. The BLUE strategy had ideally suited the ORANGE "war of attrition" strategy. The best BLUE strategy would have been a "steamroller" method of island hopping, gaining air and surface superiority by seeking out and destroying ORANGE forces in advance of amphibious assaults, And finally, he advocated

commerce raiding with cruisers and submarines (incidentally the only time the author found the role recommended for submarines). The island-hopping strategy, of course, is exactly what the United States used in World War II.

Certainly the defeat of BLUE forces going straight to Manila must have been predicted by many of the staff and students. Why then was this strategy chosen? The author's opinion is that Pratt chose it to dramatically illustrate to the students the need for advance bases and logistic support, although there is no hint of this reasoning in the records of the history and critique, But it is difficult to believe that Pratt chose the strategy simply because it would help the morale of the American public. Rather, Pratt was preaching logistics, and this war game was one way to make his point.

The following and final war game of the year again illustrated Pratt's vision and genius. For years Pratt had listened to naval officers talk about defeating Japan by destroying her fleet, and they would add parenthetically that some territory would have to be captured as well. But the Navy had never seriously addressed the problem of how to go about making an amphibious assault, So as a start he exposed his students to the concept of amphibious warfare through a remarkably prophetic lecture by Col. Robert H. Dunlap, USMC, in January 1927 entitled "Overseas Expeditionary Force." Captain Bakenhus' incomplete "Notes as to Joint Army and Navy Action in Overseas Expeditions" was equally prophetic.

But Pratt, as usual, demanded more of his students than their listening to a lecture or reading a pamphlet. In the spring of 1926 he initially planned to present them a war game involving an opposed landing and stressing logistics, resembling the joint Army-Navy landing exercise at Oahu the year before. However, the Army and Navy later planned to conduct a joint landing exercise on

the New England coast in the spring of 1927, so Pratt decided instead to have the students solve and play a revised war game paralleling the New England exercise. In the exercise, BLACK (Germany) would attempt to invade BLUE, Pratt's influence in the Navy Department must have been considerable, for the exercise was conducted in the Narragansett Bay area and concluded in Newport a week before graduation. The newspapers gave it full coverage, calling it the "War of 1927." While the exercise umpires and the War College students labored at comparing results and solutions, Newport society entertained the fleet personnel with a gala "Fleet Week," It culminated with the Secretary of the Navy delivering the graduation address at the War College. Pratt had certainly succeeded in winding up amphibious warfare and his presidency with a flour-

As the study of logistics died when Pratt departed, so also would the study of amphibious warfare languish, Nothing really new on the subject would be introduced at the Naval War College other than an occasional lecture by personnel from the Marine Corps Schools at Quantico, Fortunately, the Marine Corps developed the doctrine and equipment that would be needed. As late as 1940 the Navy still planned to use cutters with guns on the how for landing troops and had no idea how to land tanks or other heavy equipment. The exciting and challenging concepts introduced by Pratt in 1927 had been relegated to limbo by his successors.27

With the "War of 1927" Spruance ended his apprenticeship as a Naval War College student. It had been a turbulent year because of the innovations and the changes brought about by Rear Admiral Pratt. Captain Greenslade summarized their effect in a statement rich with metaphor. "And so it is hoped that the Members of the Class of 1927, who were forced to detour, while the road building was going on, may have gotten

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as much atmosphere and scenery, despite the rough going, as will later classes rolling smoothly along on the boulevard of learning, past direction posts, billboards, and gas stations. "28"

The War College had given Spruance the foundation for his preparation for high command. But his association with the War College was not over. During his 11 months as a student he had established a reputation as an intelligent, articulate, scholarly officer highly motivated for the study of naval warfare. These qualities impressed others as being highly desirable for a War College staff officer, and he would twice return to the Naval War College before being called to the war in the Pacific.

Officer in Charge of the Correspondence Courses Department, 1931-1933. Following graduation from the Naval War College, Spruance served for 2 years in the Office of Naval Lutelligence in Washington, D.C. Here he pursued his quest for learning everything he could about the Japanese. He made a special effort to become friendly with all the Japanese naval officers on duty in Washington so that he could understand their character and way of thinking.²⁹ Following this duty in naval intelligence, he then served 2 years as Executive Officer, U.S.S. Mississisppi.

Spruance returned to the Naval War College as Officer in Charge of the Correspondence Courses Department in June 1931. He must have been very happy with his appointment, because he very much enjoyed Newport and the atmosphere of the War College, and duty on the staff was a prestigious assignment. The President would normally negotiate directly with the Bureau of Navigation to get the officers he wanted for the War College staff. The War College was very selective in choosing its faculty—only top performers were wanted.³⁰

The Correspondence Courses Department had two basic courses: Strategy

aud Tactics (S & T) and International Law. They were constantly being revised and rewritten, and the transitioning of students from an old course to a new course was always a problem. Naval officers had two motivations for taking the correspondence courses: (1) Course completion could waive the requirement for certain portions of the officers' promotion examination, and (2) course completion was a requisite for assignment to the War College resident junior course. Nevertheless, the Officer in Charge of the Correspondence Courses Department would find that his biggest problem would be to motivate students to complete their assignments within a reasonable time. 31

The S&T course had just been revised when Spruance took over as Officer in Charge, He would not change or revise any of the curriculum during his tour, for he approved of what his predecessor, Comdr. Penn Carroll,* had developed. Approximately 600 officers were enrolled in S & T and International Law, but Spruance wanted even more participation. Consequently he sent personal letters to the executive officers of large ships, soliciting their help in telling junior officers what the Correspondence Courses Department had to offer. He would also give the course synopsis to the graduating resident students, asking them to pass the word when they returned to the fleet.³²

The uew S&T course was Spruance's prime concern, and to get useful data on student participation he prepared an elaborate and detailed chart so he could determine if the course was too much for the average officer to handle.³³ He sent sympathetic letters to the students who were delinquent in their installments, encouraging them to continue and complete the course.³⁴ But his patience could finally wear thin.

^{*}Spruance greatly admired Carroll and made a special point to have him on the War College staff when he became President.

To his closest friend, Carl Moore, who had been unsuccessfully struggling to complete the course for 2 years, Spruance wrote, "I am indeed sorry to learn that you have been working under such handicaps, and hope that they will soon be removed and you will be returned to normalcy."35 Spruance then manently disenrolled him. The depression had severely limited the size of Spruance's staff, so he personally corrected all the S&T solutions while referring the International Law solutions to a staff Army officer law specialist 36

The President of the War College was Rear Adm, Harris Laning, Laning was one of the most innovative and imaginative flag officers of his day. Admiral Pratt, then Chief of Naval Operations, would often turn to Laning for advice that would help Pratt in the then current naval disarmament negotiations. Laning pushed the development of naval air warfare doctrine in the college war games and strongly advocated that battleships and cruisers then under construction be converted to aircraft carrices. In this and many other ways, Laning and the Naval War College were extremely active in studying the optimum characteristics and employment of ships and aircraft.37

Spruance did not confine himself to evaluating solutions and writing letters, a necessary chore but one he would characteristically dislike. He would wander about Luce Hall and mingle with the staff and students. He was particularly close to Laning, both professionally and intellectually, for naval warfare was their mutually favorite subject. The two of them would initiate freewheeling disensions, and often a staff or student officer would use these opportunities to expound new and unique ideas. But if either reasoning or logic was faulty, Spruance would quietly, politely, and without sareasm point out the defects of an argument or theory.38

Spruance demonstrated an impressive tactical expertise; ships, aircraft, and weapons were clearly synthesized in terms of time, space, movement, and mass. He constantly urged and encouraged younger officers to test new and fascinating theories on the game board, such as "aircraft once launched cannot be stopped." His intellect was mirrored in his appearance and demeanor: physically fit, absternious, lean, alert, cool, and restrained, He was recognized as a student of naval warfare and a strategist capable of directing broad and detailed planning. An ardent advocate of the War College, he believed that its mission was essential in preparing offieers for higher command. Although his juniors affectionately nicknamed him "Old Spru," everyone at the War College held him in the highest esteem and respect. His reputation was progressively enhanced, and his association with the Naval War College was becoming increasingly closer and more firmly established.3

His 1931-1933 tour at the War College was significant for another reason. He had reported aboard a commander and departed a captain. The letter of reprimand was now a dead issue.

War College Faculty, 1935-1938. Spruance returned to the War College 2 years later as a junior captain, having served as chief of staff to Commander, Destroyers, Scouting Force, Rear Adm. Edward C. Kalbfus was War College President, and he and Spruance had worked closely together while both War College students 1926-1927. So from both personal knowledge and from reputation, Spruance was the kind of officer that Kalbfus wanted on his staff, and Kalbfus was undoubtedly responsible for Spruance's assignment.

Spruance's first year, 1935-1936, was served as head of the junior class that had some five lieutenant commanders and 17 lieutenants. Their greatest

Richmond K. (Kelly) Turner, 1936. War College strategy expert who would later command Spruance's amphibious forces.





Raymond A. Spruance, Naval War College, 1936

Carl Moore as Spruance's 1936 War College tactics expert. Later his chief of staff and always a close friend.



concern at the time was promotion; most would be passed over for lieutenant commander (although many were promoted in later years). Admiral Kalbfus would become particularly upset over the promotion results, and he would complain to the Navy Department that it was either sending poor material to the War College or that duty at the War College was not career enhancing. Whatever the reasons, he was unhappy, as were the students.

Spruance soon molded them into a studious, hard-working, and enthusiastic group of officers. They were much impressed by the serious, quiet captain and remember him well even after 35 years. "First impressions were that he was the 'cold blooded fish' type, but after we had been around awhile we found him to be a warm and human person." Another recalls

... his calm confidence and assurance in discussing the many facets of our problems... I had the impression that he was always most thorough and even meticulous in his analyses while in no sense presenting his ideas as the only solution... He was reserved but in no sense remote. He was not a "first-namer" but rather formal in a friendly and reassuring manner... [His] relationship with our group was that of a teacher in the true sense of that term. 42

A classmate remembers "...his almost encyclopedic knowledge of professional subjects...Subconsciously you felt it was impossible for him to make a mistake." ⁴³

One student had a feeling that many of his classmates were initially apathetic and felt the War College was a waste of time. Yet he remembers that Spruance "... was a tough taskmaster and the harder we worked the more he demanded of us. He was a very great

leader and there was little doubt in anyone's mind that he would reach the top. He got to be very friendly with his class and became very proud of us. '*44' Another student echoes this sentiment, remembering Spruance's

... ability to get an extraordinary amount of work from me and others... Many of the students, like myself, read, studied and wrote far into the night because Captain Spruance expected it of us... His association with us was very close. I looked forward to every session with him with zest and enthusiasm. [Indeed, Spruance was] ... very popular and deeply admired by everyone I knew. 45

These letters typify Spruance's major influence on the War College students during his 21/2-year tour-he encouraged them to think, to reason, to analyze, to experiment, and to innovate. But following his first year as director of the junior class he receded into the background, and his more forceful subordinates attracted the students' attention.46 Spruance became head of the Senior Class Tactics Department, but his close friend Carl Moore would most often direct the game board. Spruance allowed Moore free rein in devising new tactics and techniques (some rather extreme) and encouraged him to use his imagination. Spruance would occasionally drop in to see what Moore was doing, but for the most part he worked behind the scenes as an administrator and left Moore to deal with the students.47

Spruance fleeted up to head of the Operations Department in the summer of 1937, but he was overshadowed by his subordinate Head of Strategy, Richmond K. Turner. ⁴⁸ Kelly Turner was an aggressive, decisive, competitive, combatant naval officer who had a great ability to express himself clearly and

well. Although often taetless, ahrupt, and short-tempered, he nevertheless was held in great respect by the War College staff and students because of his hrilliant mind and professional competence. He initiated an impressive program of staff lectures and tried to emphasize the growing importance of earrier and amphibious warfare. He was generally conceded to he a future admiral.⁴⁹

Sprnance was apparently content to let his hard-charging subordinates take center stage. As his daughter aptly observed, "As Admiral [Carl] Moore can tell you, Dad was a great one for choosing good men and letting them do all the work." And her father admitted as much. "Looking at myself objectively, I think I am a good judge of men; and I know that I tend to be lazy about many things, so I do not try to do anything I can pass down the line to someone more competent than I am to do it." 1

Spruance began every day at 0600 with calisthenics and a cold shower. He never worked late at the War College and was always first out the door at the 1630 bell. He walked daily and swam whenever weather permitted. He never brought work home except when he tried to rewrite Kalbins' prolix "Sound Military Decision." With this hopeless task he would fuss and fnme, undoubtedly because it denied his evening recreation of reading his books on biography and history. 52 (One of his first official acts as War College President in 1946 was to replace "Sound Military Decision" with a permanent, Navy-wide naval operations planning manual.)

Carl Moore summed up Spruance's third War College tour.

Spruance took his duties at the War College in his quiet, screne way. He never seemed under pressure of any sort and never seemed to exert himself to accomplish any particular task or to make changes in the curriculum. He

enjoyed his outdoor activities, he accomplished much in repairing and refurhishing furniture, and he liked the informal kinds of social activities. His tour of duty was a pleasant relaxation.⁵³

Spruance the Warrior. Spruance left the War College in early 1938 to take command of U.S.S. Mississippi, and while in this assignment he was selected for rear admiral. He was commanding Cruiser Division 5 in the Pacific when Japan attacked Pearl Harbor. It is appropriate to consider how the War College prepared him for the war that followed.

The 11 months that he spent as a student, 1926-1927, was the greatest influence. It shaped his way of thinking; tanght him the basic principles of strategy, tactics, and command; foensed his attention on Japan as his future enemy; and it exposed him to the prophecy and philosophy of William V. Pratt. The entriculum had changed very little during the 1930's when he returned as a staff officer, and there is no evidence that he tried to change it. His knowledge obtained as a staff officer was a continuation and refinement of what he had learned and believed as a student.

The most important benefit Spruance gained was the experience and training in solving military problems and making decisions. During his years at the War College he had become thoroughly imbred with the methodology of the Estimate of the Situation and had evaluated hundreds of solutions of correspondence course students and resident students. His faculty for analyzing and solving problems and making appropriate decisions become instinctive. He would cope with new tactics and new problems after the war began, but his superbly trained mind was more than ready to deal with them. Thus. when confronted with the crises and complexities of the Pacific war, he

could resolve them systematically and effectively.

Another War College legacy was his study and knowledge of strategy. He knew the strategic strengths and weaknesses of Japan and of the United States. He knew the Pacific Ocean and the strategic importance of every island in it. He could view the struggle with Japan in its entirety, and he knew what would have to be done to defeat the Japanese.

His ability to plan and command the operations of an entire fleet evolved from his participation in war games, He was accustomed to deploying and maneuvering ficets on a game board and successfully translated this skill to the realities of commanding a fleet at war. For reasons sparked by intraservice rivalry, there were many people who wanted Spruance to be relieved by an aviation flag officer. Yet the author wonders if there was any aviator who had the breadth of understanding of the total effort needed to win a naval campaign. What aviator admiral would have had the patience and the wisdom to pursue such vexatious yet vital considerations as logistics and the peculiar needs of an amphibious landing force? Spruance was perhaps not an expert in carrier warfare tactics, but he knew how to use carriers to help him win an amphibious campaign.

Sprnance was not an innovator at the War College. The curriculum during the 1930's stressed surface warfare with the destruction of the enemy fleet as the main objective. The college did not aggressively develop or teach advanced doctrine for carrier warfare, amphibious warfare, submarine warfare, and logistics. The only true aviation advocate on the staff as late as 1939 was a lone licutenant commander aviator, amphibions operations were briefly touched upon in 2 or 3 days by visiting Marines, submarines were used as adjuncts to the

main body, and logistics was simply ignored. The War College teaching led to but one end: the clash of battleships in the decisive main engagement. Spruance could have changed the curriculum or at least its emphasis to incorporate these developing areas of naval warfare, but he did not. One concludes that his concept of naval warfare coincided with what the War College was teaching before World War II.

How then did Spruance adapt to these new naval warfare realities after the Pearl Harbor disaster? The answer lies in his flexibility and adaptability. In his words, "Those in high command must keep an open mind and be ready to make desirable and necessary changes in strategy as a war proceeds. They must also be ready and itching to fight, as King, Nimitz, and Bill Halsey were with us." Itching to fight they were, but Spruance and his fellow admirals had many lessons to learn in a very short time. To use a contemporary idiom, "It was a whole new ball game."

When Spruance took command of his cruiser division he had had minimal experience with carriers. His ships, however, were to operate extensively with Halsey's carrier task group, and Spruance would become more familiar with carrier operations. The destruction at Pearl Harbor provided Spruance a stark and sobering introduction to the awesome power of naval air warfare. The battleship and 40 years of War College doctrine for its use were suddenly obsolete. Clearly the American carriers were the only effective naval force remaining and available, and Spruance knew he would have to drastically revise his concept of naval warfare—he would have to learn how to use carriers. Midway was his first lesson.

Spruance's concept on how to use the carriers was the biggest bone of contention between him and the emerging aviation flag officers, led by Vice Admiral Towers.* Spruance considered earriers as his primary weapon for gaining air and surface superiority during an amphibious operation. And here the aviators objected, because Spruance often tied down their carriers near the amphibious objectives, leaving them exposed and vulnerable. The carriers' mobility and power were being misused, they felt, and Spruance was told that Towers had "... remarked that I wanted a sledge hammer to drive a tack." 56

The argument boiled down to a matter of mission, so thoroughly instilled in Spruance as a War College student. Spruance, the classic and deliberate tactician, looked upon the carrier as one of his many weapons to be used in his mission-which was to defeat Japan by progressively capturing islands until Japan was surrounded. The aviators wanted to use the earriers to seek ont and destroy the Japanese Fleet-this was how they conceived their missionand by destroying the fleet they felt that victory against Japan was assured. Spruance was aware that Towers wanted his job so that the aviators' strategy would prevail.⁵⁷ He later said, "If you were not an admirer of Towers and did not play on his team, your path was not made smooth if he could help it ... Towers was a very ambitions man."58

The next lesson Spruance had to learn was the art of amphibious warfare. He accepted the War College strategy of driving across the Pacific by capturing strategic islands, he knew which islands were important, and he was reasonably familiar with their topography. But the tactics involved in capturing an island were a different matter.

He had a year to learn about tacties by serving as Nimitz' chief of staff and watching Halsey's forces in their struggle for Guadalcanal and Tulagi. He saw that the battle was almost lost because the Americans did not have air and surface snpremacy. He saw what equipment was needed to conduct and support amphibious assaults. And he also saw that Kelly Turner, commanding Halsey's amphibious forces, knew what he was doing and was the best man available to command a large-scale amphibious operation.

Spruance used that year to absorb the lessons of the South Pacific and to direct the planning for the proposed drive across the Central Pacific. When Nimitz told him that he would command the Central Pacific forces, Spruance was ready. He got the best men he could find for his staff and principal commanders, such as his close War College associates, Kelly Turner and Carl Moore. His plans and preparations were thorough and complete. The actual assanlts were well executed and characterized by overwhelming force. Spruance would plan for months so he could capture his objective in days.

Mistakes were made, but as the war progressed Spruance's forces became stronger and wiser. He would later reflect.

I think any war operation should be examined as to what you expect to gain from it and what you may expect it to cost you. If the cost is much greater than the gain, do not take it on if yon can help it. Iwo Jima was an example of an operation that was much more costly than we first thought it would be, but its subsequent value turned out to be worth more than we paid for it. I think the same thing holds for Tarawa... The Gilberts bad been a necessary, but expensive, opera-

^{*}See Clark G. Reynolds, The Fast Carriers, The Forging of an Air Navy (New York: McGraw Hill, 1968); and Edwin P. Hoyt, How They Won the War in the Pacific (New York: Weybright and Talley, 1970).

tion*...1 think the Marshalls was the most satisfactory, in so far as obtaining important results at a very low cost and in a short time was concerned.^{5 9}

Logistics, also, had to be learned from scratch after the war started. The War College had taught that logistics would be an essential element of a war against Japan, but its magnitude and complexity had never been addressed. The realities of war demanded a solution, especially when more and more men and ships operated farther and farther away from repair facilities and sources of supply. Spruance later said,

In the last analysis it was our fleet strength which enabled us to move across the Pacific, to isolate the Japanese island positions we had selected for capture, to furnish the gunfire and air support for the landings, and to ensure the security of communications to the rear. As we approached closer and closer to Japan, continuous fleet support in the advanced areas became more and more a necessity. The foundation of our operations was logistics. Through the agency of our mobile service squadrons, built up from small beginnings, we were able to give our fleet the logistic support it needed when and where it was required, whether at sea or at advanced bases which moved across the Pacific as the fleet itself moved.60

He did not neglect to acknowledge the contribution of the submarine, whose role was never envisaged by the War College, Said Spruance,

Had it not been for the magnificent job done by our submarines, there is no doubt in my mind that the war in Japan would still be going on . . The Japanese empire was built on the use of the sea. When they lost the shipping needed to bring in the raw materials to Japan and to send out the men, weapons and supplies needed by their outlying areas, the empire began to erack . . . her economic framework was stripped bare and she had to capitulate. 61

The greatest contribution that the Naval War College gave to Spruance and his comrades as a whole was an aura of professionalism and unity of thoughtthey viewed the world through the same eyes and spoke a common language. They knew each other. They knew what had to be done to defeat Japan, although they sometimes disagreed how best to do it. The Naval War College had persevered with surface warfare; it took Pearl Harbor to cause its graduates to change their tactics but not their strategy. And to the everlasting credit of the War College, it taught its students the foundations and fundamentals of naval warfare. It taught them to think as future naval commanders and that, if war with Japan were to come, ultimate victory would depend on them.

Did the Naval War College fulfill its original mission in striving to prepare the future World War II naval leaders? Mahan bad expounded its reason for existence when it was created. Mahan said that its aim was to promote knowledge of how to best use ships and weapons in the conduct of war. It missed this aim by a wide margin. Mahan also said that the War College was to concentrate on strategy, tactics, and logistics. In fact, it was superb in strategy, tardy in tactics, and lacking in

^{*}Necessary because in his words "...it established, basically, the organization and the pattern that were to be used thereafter as a basis for future operations in the Central Pacific." Quoted from his lecture before the Royal United Service Institution.

logistics. Mahan further stated that its mission was to study and develop the art of naval warfare and principles which do not change although weapons and tactics may change. The attainment of this mission reached its zenith in the Staff Presentations of 1937-1938, initiated by Turner and approved by Spruance.

The Staff Presentations were developed and delivered by naval officers of the War College staff. The presentations (lectures) were scholarly, profound, and philosophical. They affirmed that naval officers were the masters of their profession. The titles of the lectures are representative of their nature. For example, under the general heading of Theory and Forms of Naval Warfare, six lectures were entitled "Policy and Naval Warfare," "The Nature of Naval Warfare," "The Influence of Geography on Naval Warfare," "Operations for Securing Command at Sca Areas," "Operations in Sea Areas under Corumand," and "Operations in Sea Areas Not under Command."

The most striking feature of the prewar Naval War College was that naval officers were supreme in the stndy and development of the art of naval warfare. They were the experts! The uaval officer enjoyed a prominence and exerted an influence that culminated in World War II, both of which then croded in the postwar era. The teachers, the lecturers, and the subjects taught at the Naval War College today offer a revealing comparison to the changing character of the War College since the 1920's and 1930's.

Spruance—The Final Analysis. A military commander is judged by his results, specifically, whether he won the battles that he fought. Spruance won all his battles, and for this alone he deserves recognition as one of our greatest naval leaders. But Spruance was a very complex man, and it is not enough to cite the more apparent attributes which

contributed to his success. A far more intriguing and difficult venture is to analyze his motivations that allowed him to bear the crushing responsibilities of high command.

Spruance enjoyed the trust and confidence of his two immediate superiors, Nimitz and King. They knew he would win for them, and they had no reason to even consider replacing him despite the persistent criticism voiced by the carrier aviation advocates. Having to contend with self-serving, ambitious, jealous, publicity-couscious flag and general officers, Nimitz and King must have been quietly thankful for Spruance who ... envied no one, rivaled no man, won the respect of almost everyone with whom he came in contact, and went ahead in his quiet way, winning victories for his country."63

Spruance was without ambition in the sense of actively seeking the prestigious Pacific commands. Rather, he was good, and his superiors knew it, and they came to him. His description of getting command of the Central Pacific Force illustrates his attitude.

He was serving as Nimitz' chief of staff, and the Joint Chiefs had just approved operations against the Gilberts and the strategy of closing Japan through the Central Pacific. One moruing while Nimitz and Spruance were walking from their quarters to their offices, Nimitz snddenly said,

"There are going to be some changes in high command of the Fleet. I would like to let you go, but unfortunately for you I need you more here." I replied, "Well, the war is an important thing. I personally would like to have another erack at the Japs, but if you need me more here, this is where I should be." And I thought no more of it until the next moruing when, again coming down from our quarters, Admiral Nimitz told me, "I have been thinking this

over during the night. Spruance, you are lucky. I decided that I am going to let you go, after all." This was how he announced to me that I would be in command of whole Central Pacific Pacific Force 64

In his personal letters written before 1945, he most often described the war as "interesting" and once as "enjoyable."65 But as his forces closed Japan the fighting got ficreer, the casualties soared, and his attitude changed. The Okinawa campaign was particularly savage. The Army progress was agonizingly slow, and his fleet in support was taking a terrible pounding from the kamikazes. To Spruance, "The way all this looked, it seemed like a bloody, hellish prelude to the forthcoming invasion of Japan . . . It would have been a terribly bloody, unnecessary proposition."66

The ordeal of the Okinawa campaign had levied a terrific strain on the principal commanders and their staffs, and Nimitz decided to have Halsey relieve Spruance so the latter could rest and plan for the invasion of Japan. During the relieving, Halsey's staff was impressed by Spruance's calmness and composure contrasted to his worn and weary staff. After the war he confessed that "No one knew of the butterflies in my stomach."67 It follows that if Okinawa gave him butterflies, perhaps all was not entirely tranquil inside during Midway and the Battle of the Philippine Sea.

His self-control was an enigma because he was innately shy and very sensitive as well as high strung and impatient. He masked his feelings and became silent when he was deeply disturbed or emotionally moved. To those about him he was always visibly serene and unworried. In effect, he was a stoic and a fatalist.68

After the war he was appalled by the treatment of American Japanese

prisoners. He blamed the Japanese militarists. "I think those responsible for the treatment of our POWs will get what is coming to them," and he felt incidentally that this meting out of justice would climinate the militarists, thus helping MacArthur to pacify Japan. 69

Sprnance's unfortunate use of the word "enjoyable" does not mean that he enjoyed the killing and the destruction of war. On the contrary, it was his way of saying that he was satisfied and content in what he was doing, as were thousands of other Americans who wanted to be where the action was, in a responsible position. Perhaps also he felt so deeply about the war that he typically hid his true feelings by an apparent impersonal attitude. Spruance expressed his duty and mission in one succinct sentence: "Winning this war in the shortest possible time is the thing that matters, and our personal desires have to take a secondary place."70

Although he condemned the Japanese militarists, he understood them. And in understanding them he also expressed one of his two greatest personal motivations—to fight honorably and well.

There are always enough brutes in any population and enough of the brute in each individual to make | cruelty and brutality | easy. The difficult thing in war is for the high command to restrain the brutal instincts which fighting tends to rouse in many individuals, while at the same time conducting relentlessly the operations which the war required. For my own part I never found that I had to develop in myself a hatred of the Japanese as a race, in order to make what I hoped would be a good war against them, 71

Spruance, furthermore, had a clear conception of his kind of war. In his mind it was "... that ancient and

honorable art."72 Later, expanding on this theme, he said

I may say that during World War II I was old fashioned enough to be opposed to unlimited destruction of the civilian population and of non-military targets, and I wanted to confine our attacks to military targets. Even with these, the civilian population suffered enough to make them lose what appetite they might have had for the war.

I am still opposed to the idea of war being conducted by mass destruction of civilian targets by lone range missiles armed with nuclear warheads. I recognize that, if our enemy has them, we must be prepared to counter an attack and probably to retaliate in kind. I hope that the responsible governments of the world will be successful in their negotiations to prevent such a situation from ever coming to pass. 73

The author is convinced that Spruance's other great motivation was a compelling sense of duty to his country, which was apparent when he interviewed the admiral in 1963. Adm. George W. Anderson had been criticized for accepting the post of Ambassador to Portugal after having just been replaced as Chief of Naval Operations. The author asked Spruance if he felt the criticism was justified. Spruance replied that Anderson had been absolutely correct. When the President asked you to do something, you did it without question. An American's first duty was to his country and the President. The anthor was both moved and impressed by Spruance's intensity and conviction on this subject.

The author's opinion is reinforced by Spruance's reaction to the acclaim he received for his World War II victories. Said he, "I was doing my duty and something I was trained to do."⁷⁴

Spruance avoided personal publicity for reasons that went far beyond his own modesty and shyness. Publicity might influence his decisions as a commander, and this he wanted to avoid

Personal publicity in a war can be a drawback because it may affect a man's thinking. A commander may not have sought it; it may have been forced upon him by zealous subordinates or imaginative war correspondents. Once started, however, it is hard to keep in check . . . Thus his reputation snow-balls, and soon, probably against his will, he has become a colorful figure, credited with fabulous characteristics over and above the competence in war command for which he has been conditioning all his life.

His fame may not have gone to his head, but there is nevertheless danger in this. Should he get to identifying himself with the figure as publicized, he may subconsciously start thinking in terms of what his reputation calls for, rather than how best to meet the

BIOGRAPHIC SUMMARY



Lt. Comdr. Thomas B. Buell, U.S. Navy, is a 1958 graduate of the U.S. Naval Academy and graduated from the Naval Postgraduate School in 1964 with the degree of bachelor of science in electrical engineer-

ing. He has served four operational tours in destroyers, most recently as Executive Officer, U.S.S. John King (DDG 3). Lieutenant Commander Buell is currently a student at the Naval War College, School of Naval Command and Staff, and chose to write a biography of Admiral Spruamee through the college's Independent Study Program.

actual problem confronting him. A man's judgment is best when he can forget himself and any reputation he may have acquired, and can concentrate wholly on making the right decisions. Hence, if he seems to give interviewers and publicity men the brush-off, it is not through ungraciousness, but rather to keep his thinking impersonal and realistic.⁷⁵

Spruance had many characteristics which portray him as a warm and appealing person. He adored his family with a deep affection. He had a delightful sense of humor. 76 He was always considerate of others and had the highest sense of integrity and honesty. For example, he once returned a dollar bill which he had found adrift in a New York subway to the eashier's window.77 While President of the War College, he went walking one evening in a snowstorm and he came upon a sailor whose car was stuck. He helped the sailor free the car and went on his way. Not until the sailor saw his anonymous savior in admiral's uniform several days later did he realize who had helped

Spruance could also be surprisingly unpretentious. He once told his War College chief of staff, "Some people believe that when I am quiet, that I am thinking some deep and important thoughts, when the fact is that I am thinking of nothing at all; my mind is blank." ⁹

Spruance knew he had done a superb job, and this gave him satisfaction. He had always had confidence in himself and his staff. He apparently was concerned about his place in history, but he left it in the hands of historians. His letters indicate a sensitivity to judgments about his conduct at the Battle of the Philippine Sea, and he bristled when told that Admiral Ozawa said that Spruance was a cautious man. He did not like to be considered as a tactician only

but wanted recognition in the fields of strategy and international relations as well. 82

He was meticulous when writing to anyone who might quote him. He would first write a draft in pencil on any available piece of paper, to assure himself it said exactly what he wanted. Then he would transcribe the draft in pen to a sheet of stationery, retaining the penciled copy for his files. This procedure was remarkable for a man who hated to write, but it was his method of keeping the record straight. He knew he was writing for history whenever he wrote a letter to a historian, writer, or academician.

He did not like personal magazine articles about him because they were usually misleading and inaccurate, and he hoped in 1946 that official historics would tell the true story.83 He apparently reviewed many historical manuscripts submitted to him, and he was as helpful as possible to anyone requesting information, always keeping a penciled copy of his reply. The Director of Naval History had a hard time convincing Spruance that he should have a biography written, but once Spruance consented he cooperated fully. He told "Savvy" Forrestel, who authored his biography, "I shall be proud and happy to have any future generations know me by what you have written. 384

Several years before his death he summed up his thoughts on how he felt history had treated him. Writing to Professor E.B. Potter of the Naval Academy, he said, "I have always been very grateful that I was privileged to play the part that I did in the Pacific during the war; and it makes me very happy that, when historians such as Sam Morison and you prepare the record of the war, you seem to approve of what I had a hand in doing." 85

This author, for another, very much approves of what Raymond A. Spruance had a hand in doing.

FOOTNOTES

- 1. Letter from Raymond A. Spruance to the Secretary of the Navv. 8 February 1927. Naval Historical Collection, Naval War College, Newport, R.I. Supply officers are now directly responsible to the Naval Supply Systems Command for the financial management of general messes afloat, relieving commanding officers of the responsibility of auditing financial statements.
- 2. Letter from Raymond A. Spruance to the Chief of Bnreau of Navigation, 3 October 1929, Naval Historical Collection, Naval War College, Newport, R.I.
 - 3. Letter from Mrs. Raymond A. Spruanee to the anthor 31 October 1970.
- 4. Interview with Rear Adm. Charles J. Moore, USN (Ret.) by Dr. John T. Mason, Jr., Washington, D.C.: 28 November 1966, Oral History Research Office, Columbia University. Moore was Spruance's close friend and wartime chief of staff.
- 5. Spruance's theses are on file in the Naval Historical Collection, Naval War College, Newport, R.I. Spruanee must have placed some value on the command thesis, for he retained his copy in his personal papers given to the War College after his death,
 - 6. Interview with Raymond A. Spruance by the anthor, Pebble Beach, Calif.: June 1963.
- 7. Raymond A. Spruance, "Thesis on Policy," Unpublished Thesis, Naval War College, Newport, R.I.: 1926.
 - 8. Ibid.
 - 9. Ibid.
- 10. "We wish for no victories but those of peace; for no territory except our own; for no sovereignty except the sovereignty over ourselves. We deem the independence and equal rights of the smallest and weakest member of the family of nations equal to as much respect as those of the greatest empire, and deem the observance of that respect the chief guarantee of the weak against the oppression of the strong. We neither claim nor desire any rights, or privileges, or powers that we do not freely concede to every other American republic. We wish to increase our prosperity, to expand our trade, to grow in wealth, in wisdom, and in spirit, but our conception of the true way to accomplish this is not to pull down others and profit by their ruin, but to help all friends to a common prosperity and a common growth, that we may all become greater and stronger together." Secretary of State Elihu Root before the Third International American Conference at Rio de Janeiro, 31 July 1906.
- 11. William V. Pratt, "The Naval War College," United States Naval Institute Proceedings, September 1927, p. 944.
- 12. R.E. Bakenhus, "Lecture as to the Course in Logistics," Lecture, Naval War College, Newport, R.I.: 1 December 1926.
- 13. Spruance's views on logistics are best described in the following references. Letter from Raymond A. Spruance to E.B. Potter, Professor of History, U.S. Naval Academy, 3 January 1959; Interview with Raymond A. Spruance by Philippe de Bausset, Paris Match, July 1965, Naval Historical Collection, Naval War College, Newport, R.I.; Lecture by Raymond A. Spruance before the Royal United Service Institution, London, 30 October 1946; Address by Raymond A. Spruance before the alumni of Brown University, 17 June 1946.
- 14. Elmer B. Potter, ed., Sea Power-a Naval History (Englewood Cliffs, N.J.: Prentice-Hall, 1960), p. 639-645.
 - 15. Pratt; Bakenhus.
- 16. The subjects included "Logistics in a United States-Japanese War," "Caribbean-Panama Area Logistics in a United States-German War," "Strategic Raw Materials: National and Naval Logistics Planning in Peace and War," "Logistics of Mobilization for a United States-Japanese War," and "Importation of Manganese During the First Year of a United States-Japanese War."
- 17. The Naval War College strategy against Japan called for her economic isolation, but not by submarine warfare. War games used submarines as scouts or pickets to assist the main body during a surface engagement, but not as commerce raiders, Rear Adm. Henry E. Eecles, USN (Ret.), who served in submarines in the late 1920's, told the author that many naval officers of that period were either contemptuous of the submarine service or else considered them so vulnerable that they should not be permitted to exercise near capital ships during maneuvers. In his oral history. Adm. Richard L. Conolly relates that during the naval disarmament talks in the early 1930's, the Navy seriously considered advocating the outlawing of all submarines. Potter, p. 809, states that the Navy did not approve the policy of unrestricted submarine warfare until after the Pearl Harbor attack.
- 18. Letter from Comdr. Raymond A. McClellan, USN (Ret.) to the author, 23 October 1970.

19. Raymond A. Spruance and Raymond A. McClellan, "Class of 1927, the Strategic Raw Materials, Sources, Trade Routes, and Their Protection in Time of War, BLUE versus RED-ORANGE," Unpublished Report, Naval War College, Newport, R.I.: May 1927.

20. Three committees were assigned to study, respectively, "British and German Major Naval Operations in World War I," "Naval Operations in the Russo-Japanese War of 1904-05," and

"Nelson's Campaign Leading up to and Including Trafalgar."

21, W.R. Van Auken, "Class of 1927, the Stralegic Planning of Japanese Naval Operations,"

Unpublished Report, Naval War College, Newport, R.I.: 21 April 1927.

- 22. See part I of this article in the March 1971 Review which covered these principles in detail. The War College stopped teaching them when college President Kalbfns introduced his "Sound Military Decision" in early 1937.
- 23. R.A. Spruance and P.P. Welch, "Supplementary Report, Subject: the Tactics of the Japanese Involved in the Battle of Tsushima," Unpublished Report, Naval War College, Newport, R.I.: April 1927, p. 14.

24. Ibid., p. 7.

25. Letter from Raymond A. Spruance to Samuel E. Morison, 20 January 1952, Naval History Division, Washington, D.C.

26. Extracted from the verbatim critique of Operations Problem II-27, conducted in March

1927 by Capt. J.W. Greenslade, USN, of the War College staff.

- 27. Interview with Rear Adm. Charles J. Moore, USN (Ret.), by the author, Chevy Chase, Md., 6 November 1970. Moore is especially well qualified on this subject, having served at the War College for 3 years in the mid-1930's, in the Navy Department War Plans Section in the early 1940's, and as Spruanee's chief of staff during World War II. The author's view is also supported by a 20 October 1970 letter to the author from Rear Adm. Thomas H. Robbins, Jr., USN (Ret.), who was very closely associated with the War College in the late 1930's and later served as President.
 - 28. Greenslade.
- 29. Letter from Capt. Gerald S. Bogart, DSN (Ret.), to the author, 29 November 1970. Captain Bogart is Spruance's son-in-law. Spruance never forgot a close Japanese friend from his ONI days, Vice Adm. Tsueno Sakano, and on 9 December 1946 sent him a particularly warm and sympathetic letter reaffirming the friendship between the Spruances and the Sakanos.

30. Letter, Robbins to author, 20 October 1970. The prestige associated with a War College staff billet was also evident in the memoirs of several former staff officers such as Harris Laning,

Richard L. Conolly, John L. Hall, Jr., and Alan G. Kirk.

- 31. History of Correspondence Courses together with Names of Personnel in Charge of, and Periods of Duty. This is a looseleaf log recording the significant events in the Correspondence School for the period 1914-1964. It was last maintained by Mr. Bradford W. Langley who served in the school as administrative assistant for 40 years until his retirement several years ago.
- 32. Director, Correspondence School, Annual Report to President, Naval War College, Newport, R.I., 6 June 1932.
 - 33. History of Correspondence Courses, p. 9.
 - 34. Letter, Moore to author, 20 October 1970.
- 35. The Reminiscences of Charles J. Moore, (New York: Columbia University, Oral History Research Office, 1966), p. 484.
 - 36. Telephone conversation with Mr. Langley, 16 October 1970.
- 37. The Reminiscences of Admiral Richard L. Conolly, (New York: Columbia University, Oral History Research Office, 1960), p. 69-75. Admiral Conolly was on the War College staff in the early 1930's and served as President in the early 1950's. For Laning's personal feelings on the War College, see his unpublished autobiography, "An Admiral's Yarn," on file in the War College's Historical Collection. His credentials as a strategist sometimes suffered, however, especially in his proposed strategy against Japan. See Ernest J. King and Walter M. Whitehill, Fleet Admiral King, a Naval Record (New York: Norton, 1952), p. 238-242.
- 38. Letter from Adm. James L. Holloway, Jr., USN (Ret.), to the author, 15 October 1970. Admiral flolloway served as Laning's flag lieutenant during his presidency.
 - 39. Ibid.
- 40. Letter from Rear Adm. Harvey T. Walsh, USN (Ret.), to the author, 9 November 1970. The Navy was facing a "hump" caused by the retention of World War I Reserve officers.
- 41. Letter from Comdr. Richard P. McDonough, USN (Ret.), to the author, 6 November 1970.
 - 42. Letter, Walsh to author.
 - 43. Letter from Rear Adm. Horatio Ridout, USN (Ret.), to the author, 20 November 1970.

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- 44. Letter from Vice Adm. Robert Goldthwaite, USN (Ret.), to the author, 12 November 1970.
 - 45. Letter from Capt. Clarence V. Lee, USN (Ret.), to the author, 9 November 1970.
- 46. The letters from former students in the War College classes of 1937 and 1938 contain the same high opinion of Spruance but indicate that he was a more distant figure, in contrast to his intimacy with the junior class his first year.
 - 47. Letter, Moore to author.
- 48. Students' letters for this period contain vivid memories of Turner. He and Spruanee were considered the "brains" of the War College, yet Turner would predominate in the daily direction of the students' activities.
- 49. Letter from Vice Adm. B.H. Bieri, USN (Ret.), to Vice Adm. George C. Dyer, USN (Ret.), 22 May 1960.
- 50. Letter from Mrs, Gerald A. Bogart to the author, 29 November 1970. Carl Moore told the author in the 6 November 1970 interview that Spruance would select subordinates who could do things well in areas that Spruance disliked, such as the detailed work required for planning and order writing.
- 51. Letter from Raymond A. Spruance to Rear Adm. E.M. Eller, USN (Ret.), 22 July 1966. For a splendid personal discourse on how he led the men he chose, see his 11 June 1948 Commencement Address delivered at Worcester Polytechnic Institute.
- 52. Letter, Mrs. Bogart to author. His passion for walking and swimming was legend during the war. Carl Moore relates that Spruance did this to regulate his health and as a self-discipline in exercising command. He would rarely work in the evening, even at sea, except in an emergency. He wanted a regular daily routine, and this included 8 hours of sleep each night. In this way his mind would be absolutely clear for decisionmaking. (Moore-Mason interview.)
 - 53. Letter, Moore to author.
- 54. This is the author's opinion, based on his study of the War College curriculum of the 1930's, his 6 November 1970 interview with Rear Admiral Moore, correspondence with Rear Admiral Robbins, and the author's study of authoritative hooks such as E.B. Potter's Sea Power and Vincent Davis, The Admiral's Lobby (Chapel Hill: University of North Carolina Press, 1967). The efforts of forward-looking officers such as Pratt, Laning, and Turner could not overcome the predominant War College fixation on surface warfare.
 - 55. Letter, Spruance to Morison, 19 May 1963.
- 56. Ibid. Towers had opposed Spruanee's plan to strike north from the Elliee Islands to capture the Gilberts, and Spruanee recalled the circumstances 22 years later. "There had been opposing theories about it. Once, for instance, I was told... that a roomful of experts in Pearl Harbor who did not know much about the conditions in the area, who hadn't even studied them properly and who, above all, weren't even going to have to do it themselves, had said of my plan that 'I wanted a sledge hammer to drive a tack.' They didn't say that any more after we took Tarawa." Quoted from Paris Match interview.
- 57. Memorandum of 4 November 1965 conversation between Raymond A. Spruance and Rear Adm. Henry E. Eccles, USN (Ret.), dated 12 November 1965.
- 58. Letter from Raymond A. Spruance to Vice Adm. E.P. Forrestel, USN (Ret.), 6 February 1963.
 - 59. Letter, Spruance to Morison, 19 May 1963.
- 60. Royal United Service Institution lecture. This lecture could be used as a textbook for the strategy and tactics of the war in the Pacific as seen by Spruance and merits separate publication.
 - Brown University address.
 - 62. Letter, Spruance to Potter, 3 January 1959.
- 63. Samuel E. Morison, History of U.S. Naval Operations in World War II, New Guinea and the Marianas March 1944-August 1944 (Boston: Little, Brown, 1953), v. VIII, p. 235-236.
 - 64. Paris Match interview.
- 65. For example, he wrote to a fellow admiral that "... we really have a most interesting war going on in the Pacific, and I know you would enjoy it." Letter from Raymond A. Spruanee to Rear Adm. W.W. Smith, USN, 29 August 1944, Naval Historical Collection, Naval War College, Newport, R.I.
 - 66. Paris Match interview.
 - 67. Letter from Mrs. Raymond A. Spruance to the author, 13 January 1971.
 - 68. Ibid.
- 69. Letter, Spruance to Moore, 5 October 1945, Naval Historical Collection, Naval War College, Newport, R.I.

- 70. Letter from Raymond A. Spruance to Rear Adm. A.C. Davis, USN, 24 May 1944, Naval Historical Collection, Naval War College, Newport, R.I. This letter was written when Davis was his prospective chief of staff.
 - 71. Letter, Spruance to Sakano.
 - 72. Worcester Polytechnic Institute address.
- 73. Letter from Raymond A. Spruance to Vincent Davis, 15 April 1960, Naval Historical Collection, Naval War College, Newport, R.I. Professor Davis is the current occupant of the Chester W. Nimitz Chair of Social and Political Science at the Naval War College.
 - 74. Letter, Mrs. Spruance to author, 13 January 1971.
- 75. E.P. Forrestel, Admiral Raymond A. Spruance, USN, a Study in Command (Washington: U.S. Govt. Print. Off., 1966), p. 62. Carl Moore also cited this reasoning in his 28 November 1966 interview with Dr. Mason.
 - 76. Letter, Mrs. Spruance to author, 13 January 1971.
 - 77. Letter, Mrs. Bogart to author.
 - 78. Langley telephone conversation.
 - 79. Letter from Vice Adm. A.E. Smith, USN (Ret.), to the author, 29 November 1970.
 - 80. Letter, Mrs. Spruance to author, 13 January 1971.
 - 81. Letter, Spruance to Potter, 3 January 1959.
 - 82. Letter, Spruance to Potter, 4 February 1959.
- 83. Letter, Spruance to Moore, 17 September 1946, Naval Historical Collection, Naval War College, Newport, R.I.
 - 84. Letter, Spruance to Forrestel, 17 April 1964.
 - 85. Letter, Spruance to Potter, 2 February 1965.



The Admiral must have the ability to see things whole, to appraise the present in terms of the future, and to see the problems of both the present and the future in all their numerous ramifications. To understand strategy is easy, to determine upon a strategic policy is not. To determine upon a wise policy and stick to it through innumerable distractions and conflicting political demands requires something approaching genius.

Bernard Brodie, A Guide to Naval Strategy, p. 264

More than any single event or person, the University Reform Movement-given birth in 1918 at the University of Cordoba in Argentina-has been responsible for the current status of higher education in Latin America, Motivated by an intense desire to remake universities that had altered little their original medieval structure and curriculum, Argentine student reformers, backed by the Radical government then in power, implemented reforms designed to bring the university into the 20th century. The results of these changes, namely cogovernment and university autonomy, have served largely to politicize the campuses, thereby frustrating the original purpose of reform-training a highly skilled body of scholars and technicians capable of serving the national interests of economic development and growth, (This paper was prepared by the author as an element of research for the National Strategy Study conducted by the School of Naval Warfare. Ed.)

THE PROSPECTS FOR STUDENT ACTIVISM

IN LATIN AMERICA

A research paper prepared by Mr. G. Scott Sugden School of Naval Warfare

Student activism flourishes in Latin America. In no other part of the world has student activism, especially in the political sense, become so closely identified with the everyday life of university students as in those countries south of the Rio Grande. For more than half a century, university students in that area have periodically roiled the political waters, often to the consternation of university faculty and administration, and frequently to the chagrin, if not the downfall, of dictatorial chiefs of state.

While influential in the past, what role will be played by the student activists of Latin America in the decade of the seventies? Anyone concerned with or interested in stability and development in the Western Hemisphere should be concerned with the answer to such a question.

However, in order to assess the future role of student activists, one should consider how they evolved to their present state of influence. It is also desirable to be familiar with the factors which contributed to their evolution. Above all, one must be aware of the role played by the institutions to which they were drawn, the universities of Latin America.

Established in 1551, the first "Royal and Pontifical" universities of Latin America were founded in Peru and Mexico. Similar to other Spanish universities established later in the New World, these institutions were modeled after the University of Salamanea.1

Initially, the universities served well the colonial society within which they were nurtured. Though insulated by their autonomy, they expressed the need and contributed toward the general well-being of the society by educating selected members of the clite in the fields of medicine and law.

However, as the continent evolved from its colonial status, the universities failed to keep pace with the change. Little affected by academic currents from Europe and North America, they became locked into curricula for narrow professional training, seemingly unmindful of the need to provide broader and more practical educational opportunities. Nor did the universities make any accommodations to adapt to the needs of new professions which were evolving elsewhere, while social and economic problems of the society were equally ignored. As the universities lapsed in their responsibilities to fulfill educational and social needs, they became proportionately more irrelevant to their environment.

By the 20th century, universities had become the most conservative social institutions in Latin America. As citadels for the preservation of the status quo, they became prime targets for those who considered that the educational institutions should serve as instruments of social mobility. The pressure for change mounted most rapidly in those countries of Latin America where old values were in sharpest conflict with a burgeoning middle class. It first gained legitimeay, as the University Reform Movement, in the oldest institution of advanced education in the most developed country in Latin America, the University of Córdoba in Argentina.

The University Reform Movement was given birth at Córdoba in 1918. Its midwives were students and young faculty members of the university and an enlightened national government controlled by the Radical Party whose power base rested upon the emerging middle class of the country. Once born, the movement sought a variety of goals, probably the most important of which was the conversion of Latin American universities into agents of social change. Half a century later this remains a goal toward which many reformers in the area still struggle.2 Significantly, delivery of the Reform Movement also politicized university life, introducing students directly into the university and national politics. As a consequence, it demonstrated to students the rewards that could be obtained from playing a forceful role in these arenas, a lesson that has not been forgotten and has often been demonstrated in subsequent vears.

The insurgency at Cordoba in 1918 was the first full-fledged confrontation and attack by a Latin American student body against the university system.3 Ostensibly, it was triggered by a student strike protesting the election of an unpopular official to a position of high responsibility in the university. In reality, the student action represented acute dissatisfaction with the general state of the university system, the quality of instruction, and the apparent lack of concern for student interests. This dissatisfaction, as well as a degree of disillusionment with the bureaucracy and society which perpetuated the system, was exemplified in the following execrpt from the Cordoba Manifesto proclaimed by the students:

Up to now the universities have been the secular refuge of mediocrities, have provided a salary for the ignorant and a safe hospital for invalids, and what is worse, have provided a place where all forms of tyranny and insensitivity could be taught. The universities have thus come to be faithful reflections of a decadent society, offering a sad spectacle of immobile senility. Before closed and silent houses, wisdom passes silently or enters distorted and grotesque into the service of bureaueraey.⁴

Much of the sentiment expressed by the manifesto was shared by a sympathetic national government in Argentina at the time. 5 As a result, several of the reform demands were transformed to university law; principal among these were the inclusion of student representatives on governing councils of the university and faculty, the equality of student voting rights in the election of the university rector, and the right of students to attend classes without compulsion or restriction. While not a principal issue of public contention, the inviolability of university autonomy was also reemphasized and reinforced at that time.

The reforms of Córdoba met widespread acceptance and imitation throughout Latin America. Their achievement virtually institutionalized student activism on the continent. Since 1918 successive generations of students have passed on to the next a valued, almost cherished, tradition of fervid political activism. Generally, the aetivism has concentrated upon defense of the reforms esponsed in the Córdoba Manifesto, which have acquired almost sacrosanet or mystical qualities as ideals. However, just as the students of Cordoba found it necessary to enter the national political pit to contest university intransigence and to promote their own ideals and interests, so successive generations of students have become involved, even more easily, in nonuniversity political issues.

Student activism has made some substantial contributions to the sociopolitical development of Latin America.
It has provided a valuable training
ground and conduit for the production
of national political leaders. Through
the promotion of its revered principle of
cogovernment (co-gobierno)⁶ it has
served as a catalyst for responsiveness to

modern societal requirements within the academic community. Acting as the "agent of change" or the "conscience of the people," student activists have sought to become trustees for the disenfranchised workers and peasants. This role has often led them to the forefront in struggles against military dictators. In fact, students have sometimes been the sole source of effective criticism of the ruling regime in some Latin American countries.

But not all student activism has been of a constructive nature. Ironically, one of the most serious shortcomings has been its threat to academic freedom through misuse of eogovernment and the resultant intimidation of or bribery by faculty members.9 A similar selfdefeating inclination has been the dangerous reflexive tendency of activists to imitate their opposition through direct action and the use of force. Above all, the politicalization of the universities, to which activists have contributed immeasurably, has created serious barriers to further advancement of the University Reform Movement by turning campuses into eockpits for competing national political parties and factions.

A multitude of factors have contributed to the numerical size, composition, and outlook of student activists in Latin America. Most of these factors can be expected to continue to influence the motivation and direction of this group in the future. Some factors, such as the Reform Movement and politicalization of the campus, have already been noted; others deserve mention, however briefly.

There is general agreement that a relatively small number of university students in Latin America are activists. ¹⁰ There is considerably less agreement on the determination and relative importance of factors that create and influence the activists. However, a profile of student activists would probably show that most of them come from middle-class provincial families; ¹¹

attend urban state universities; and study subjects in the humanities, social or behavioral science faculties where entrance and course demands are less demanding and rigid than those for the traditional professions. 12 The greatest pressures that create and shape activists come from their peer group and from the students' relative need for self-realization. While political parties and members of the university administration and faculty exert considerable influence on students, these pressures are considered to be relatively less significant. Finally, the general milieu of the student subculture with its penchant for change, challenge to traditional power and authority, and social mobility also contributes substantially to the promotion of activism among its adherents. 13

Few factors, however, have had more impact on student activists in Latin America than the Cuban revolt, Castro's assumption of power served as a watershed for student activism in the area. Before 1959 student groups made occasional forays of violence. After that date the Cuban example of organized, sustained violence, especially the role played by the student clite within the university and outside, served as a model for emulation, In essence, student activism became radicalized by the Cuban revolt, and guerrilla warfare was added to the tactical arsenal of the activists. The path to violence was further enhanced by Che Guevara's appeal to intellectuals to take the lead as guerrillas, 14 Whether the time and manner of his death have had any effect on that appeal may be a moot point.

Castro's Cuba has served as an example to reformers and activists in other ways, Cuba has been the only country in Latin America to have aligned the university system with the requirements of a developing economy, 15 a feat which Cuban leaders have asserted was impossible without a total sociopolitical revolution. Also, the revolutionary regime's dedicated sense of purpose and

total commitment attracted many activists, especially those inclined toward rapid and absolute solutions.

Castroism may be expected to have a continued attraction for future student activism in Latin America. At the same time, students cannot be unaware of the sacrifices that Fidelismo has brought to their counterparts in Cuba. Not only has the university been shorn of its hallowed autonomy, but student activities have come under the direct control of the Communist Party. As a result, student involvement in polities has been reduced to a token level. Dissident elements within the student body have been periodically purged, and any student suspected of "counterrevolutionary" tendencies has been prevented from enrolling in the university, Rigid discipline has been imposed by militia, and students have been kept in a state of flux between national mobilizations and "volunteer" work in the sugareane fields. 16 Under Castro academic freedom has been repressed and student opposition has been reduced to a state of passivity. These developments are not calculated to attract student activists to the ranks of Fidelismo, but neither can they be expected to deter radicalized students who view them as temporary aberrations or sacrifices made on behalf of the vaunted ideals of a social revolution.

Idealism is often an important trait in the personality of a student activist. Latin American activists appear to be no exception. There seems to be a natural inclination to seek absolute, all-encompassing solutions. Societal changes are sought in immediate, total, and final packaging. Ironically, the presence of this idealism may serve to impede the influence of communism on the future development of student activism in Latín Ámerica.

To date, Communists have made some serious inroads within selected student organizations. Particular success has been achieved among university

student groups in Bolivia, Uruguay, and, especially. Argentina since the early 1960's when local and national federations came under their control. This success has been, in part, a result of ardent proselytizing, the creation of hard-core, dedicated student activists, and the ability to direct youthful opposition toward revolutionary objectives. It also has represented acceptance of an ideologically orientated movement to serve as a guide for thought and actions while promoting universal solutions. Already inclined toward the Left. some student activists find Communist ideology an easy and natural refuge, especially when it can be coupled with Yankee-baiting, anti-imperialist demonstrations.

However, relations with Soviet Communists may not be so easily reciprocated. There is a feeling that the Soviet Communist world is inclined to be suspicious of the Latin American student movement because of its dependence upon idealism as a guiding force. 17 While Communists pay lipservice to the idealism, the movement is looked upon as an uncertain ally. While this doubt exists, it is probable that Communist influence on the future direction and guidelines of student activism will be less than optimum in Latin America.

In the meantime, the Communist Party discourages student disorders against national governments in those Latin American countries where it seeks government cooperation. Rather, the party seeks student cooperation by promoting confrontation tacties with valid grievances on the local level.

Student activism on the national level, in fact, may encounter an increasing amount of resistance in the future. This resistance is emerging from developments and attitudes taking place within the university as well as outside of it. The extreme politicalization of student activities, fostered by eogovern-

ment and campus inviolability, is creating much of the resistance.

Within the university, eogovernment by the students has tended to undermine the University Reform Movement and academic freedom. Through student representation on the governing councils, faculty members have been intimidated, efforts to raise academic standards have been stymied, and small numbers of radical activists have achieved considerable influence. Attempts to depoliticalize the universities have been frequent causes of student strikes, causing further deterioration in academie standards, faculty "brain drain," and government reaction.

Concurrently, politicalization and autonomy of the campus has attracted external forces which also exacerbated the academic deterioration. Political parties have viewed the campus as a political arena and student groups as a means to exert pressure on the government. At times the situation has been carried to extremes by virtually creating an antistate within a state. This was the case in Venezuela when Hector Mujica, a Communist leader and nonstudent, directed acts of violence and terror against the democratically elected Betaneourt government from a base on university grounds, protected from police intrusion by the quasi-extra-territoriality of the campus. 18 In consequence, govcrnments became increasingly reluctant to allow universities to remain sources of extreme political opposition and agitation without any limitations or controls.

Government reaction can be expected to affect future student radicalism in a variety of ways. As resentment of the hostile sanctuaries grows and as it becomes more apparent that student disorders are restricting the supply of trained personnel required for national development, governments tend to establish technical institutes outside of university authority, resulting in the

diminution of university prestige and student political influence. Moreover, as students become more radicalized and violent, national liberal leaders, many of whom were student activists themselves, become disillusioned and less cooperative with the student movement.¹⁹

The resistance of national leaders to student activists is further enhanced by recognition that they are less likely to be spokesmen for nonstudent interests. In the past students have served as representatives for the less articulate worker and peasant. However, as these groups organize, create indigenous leaders, and engage in independent political action, student activists have become less attractive and less necessary as spokesmen.

In essence, the future state of student activism in Latin America would appear to rest primarily upon two factors. Firstly, the relative success of the University Reform Movement, especially as it affects campus politicalization, seems critical. Secondly, the extent to which students are able to ally with a broader based20 or more powerful element of society, such as labor unions, an agrarian movement, or the military forces, seems also significant. Where university reform has been most successful, as in Argentina, conditions of higher education have been appreciably improved and students have been more apt to conduct their activities in harmony with popularly accepted in-

terests of the nation and society. But where the Reform Movement has been least successful, as in Colombia, student have become increasingly alienated from their environment and less responsible in their actions. Similarly, student activists can be expected to remain restricted to the role of catalyst except in those cases where they may become allied to a mass organization. These factors can be expected to continue to serve as key influences in shaping the force and direction of student activism among Latin American students in the future, even as activism promises to continue to flourish in the seventies.

BIOGRAPHIC SUMMARY



Mr. G. Scott Sugden did his undergraduate work at Brown University in international relations and holds a master's degree and Ph.D. in history from Tufts University, As an officer of the United

States Information Service (USIS) he has served in USIS offices of both India and Pakistan, has been the Director of Student Affairs in London and the Director in Nigeria, and most recently was assigned to the Office of the Director for Africa. Mr. Sugden is currently a student at the Naval War College, School of Naval Warfare.

FOOTNOTES

 Rudolph Atcon, "The Latin American University," Die Deutsche Universtatszeitung, February 1962, p. 9-47.

2. Alistair Hennessy, "University Students in National Politics," Claudio Veliz, ed., The Politics of Conformity in Latin America (London: Oxford University Press, 1966), p. 129.

3. Kenneth N. Walker, "A Comparison of the University Reform Movements in Argentina and Colombia," Seymour M. Lipset, ed., Student Politics (New York: Basic Books, 1967), p. 296.

4. Ibid., p. 296.

5. For more detail on the role of the Radical Party government in power at the time, see Luigi Einaudi, "Rebels without Allies," Saturday Review, 17 August 1968, p. 45.

6. Under the co-gobierno principle, student representatives on faculty and administration boards share in making policy decisions on university matters.

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7. Hennessy, p. 134.

- 8. For views on the role of student opposition to dictatorial regimes in Latin America, see Lewis S. Feuer, *The Conflict of Generations* (New York: Basie Books, 1969), p. 239; Orlando Albornoz, "Academic Freedom and Higher Education in Latin America," Seymour M. Lipset, ed., *Student Politics*, p. 287; and Einaudi, p. 46.
- 9. Albornoz, p. 289. Since being a representative on a faculty board offers one of the few prestige roles open to students, it is understandable why this issue of the Reform Movement arouses more passionate controversy than any other. Hennessy, p. 133.
- 10. Robert O. Myhr, "Brazil," Donald K. Emmerson, ed., Students and Politics in Developing Nations (New York: Praeger, 1968), p. 260; P.G. Altbach, "Students and Polities," Seymour M. Lipset, ed., Student Politics, p. 79; and R. Walter, Student Politics in Argentina (New York: Basic Books, 1968), p. 201.
- 11. However, Seymour M. Lipset notes that surveys among Brazilian and Panamanian law students suggest that the most radical activists come from lower class families, See his "Students and Polities in Underdeveloped Countries," Student Polities, p. 29.
- and Polities in Underdeveloped Countries," Student Politics, p. 29.
 12. Robert Scott, "Student Political Activism in Latin America," Daedalus, Winter 1968, p.

77-84.

- 13. For more detailed analyses of factors contributing to student activism, see Altbach, p. 76-79; Hennessy, p. 137-140; and Kenneth Walker, "Determinants of Castro Support among Latin American Students," Social and Economic Studies, March 1965, p. 105.
 - 14. Feuer, p. 247.
 - 15. Hennessy, p. 119.
- 16. Jaime Suchlicki, University Students and Revolution in Cuba 1920-1968 (Coral Gables, Fla.: University of Miami Press, 1969), p. 130-131.
 - 17. Feucr, p. 251-252.
 - 18. Ibid., p. 246.
 - 19. Hennessy, p. 127.
- 20. In 1960 only 3.1 percent of the university age group were receiving higher education in Latin America. Hennessy, p. 120.

Education, in its finest and broadest sense, should . . . aim to gain for man mastery over his environment.

S.W. Roskill, The Art of Leadership, p. 39.

Intelligence, communications, and submerged speed were the critical factors in wolfpack tactics in the Battle of the Atlantic. Despite postwar technological improvements in weapons systems and sensors employed by both submarine and antisubmarine forces (which have largely offset each other), the advances in submarine design permitting greater submerged mobility and decreasing vulnerability to surface detection have made coordinated attack feasible once again.

WOLFPACK: MEASURE AND COUNTER

An article prepared by Dr. John A. Howe Chair of Physical Sciences

The history of warfare affords countless examples of technological innovation followed by technological counter: axe-shield, body armor-crossbow, machinegun-tank, to name just a few. One of the more impressive sequences of innovation in warfare has been the evolution of the submarine as a destroyer of commerce and the accompanying evolution of the defense.

Historically, this process has been marked by the great rate with which changes and innovations have occurred and by the lack of any clear advantage to either side. This change has continued, and in view of the demonstrated impact of submarine war on commerce, it is natural to ask what the situation is now, Although no final answer can be provided to this question, perhaps a useful appreciation may be obtained by examining the great convoy battles of World War II and then speculating on the effects of subsequent technological improvements.

To understand the situation at the beginning of World War II, it is necessary to review briefly the lessons learned during the Great War. First and forcmost, World War I saw the introduction unrestricted submarine warfare against merchant shipping. This new technique proved capable of inflicting intense damage, direct and indirect, to the Allied war effort. On the technical side, the submarine emerged as an occangoing vessel, capable of operating submerged for hours at a time and earrying multiple torpedoes. The defense, in addition to passive measures such as barriers and mining, had evolved the depth charge and, in ASDIC, an underwater search capability.

In the tactical realm, the greatest innovation came in 1917 with the institution of the convoy system. Although this system had been employed in earlier times, its principal utility now lay not in the strength of the escort, but in depriving the U-boat of target

contacts. In Doenitz' words, "The oceans at once became bare and empty; for long periods at a time the U-hoats, operating individually, would see nothing at all..."

Thus, in the years between World Wars I and II, the British considered that the convoy protected by ASDIC-fitted escorts provided an effective counter to the suhmarine menace. On the other hand, the growing U-boat arm under Doenitz began to devise and exercise coordinated tactics so that many boats could "profit" from one initial target contact. Further, they contended that the escort could not cope with a coordinated U-boat attack.

The early stages of World War II were marked by submarine operations conducted much as before. It was not until the Norwegian campaign had ended and the U-boats had refitted that the Germans were able to sail enough boats to try the new Rudeltaktik.

During the summer of 1940, U-boat command directed three group operations which failed to make contact with their targets. However, in September, the new wolfpack tactic began to produce results: in two such couvoy attacks 16 merchant ships were sunk in the northwestern approaches. October produced even greater successes. Convoy SC.7 lost 17 ships to a pack of six U-boats. HX.79 lost 14 ships to four U-boats in a battle lasting 2 days, and HX.79A lost seven ships to the same four U-boats. No U-boats were lost.

Doenitz jubilantly recorded the success of his new "pack" tactics. For their part, the British realized that they had been eaught "unawares and unprepared." In fact, Churchill later wrote in summary, "The only thing that ever really frightened me during the war was the U-boat peril."

Counters to the wolfpack were introduced as rapidly as possible. These included quantitative increases, more escorts, and more aircraft. They also included new devices and capabilities: new illuminants, aircraft searchlights, aircraft and surface radar, shiphorne RDF, ahead-thrown weapons, and co-ordinated multiunit tactics.

Nevertheless, the victor of the Battle of the Atlantic remained undecided into 1943. In a battle lasting from 16 March to 19 March, 38 U-boats attacked 11X.229, then the slower SC.122, and then both convoys as they merged. Although nearly all the U-boats suffered some damage, only one was sunk. Allied losses were 21 ships comprising 141,000 tons.

But the U-boats did not always win. The pack attacks on convoy ONS.5 began the night of 4 May and continued through the night of 6 May. Overall, 12 merchant ships and seven U-boats were sunk, five by the convoy escort. From the U-boat point of view, even worse than their losses was the fact that they had been frustrated and forced to disengage by the escort.

In spite of sporadic successes, this pattern of frustrated wolfpack attack recurred throughout the rest of 1943. By the end of 1943 the Admiralty realized that the crisis in the convoy war had occurred during the previous spring and that they were the victor.⁷, 8

Although the U-boat remained a menace throughout the remainder of World War II, the wolfpack threat had been contained. What then had happened between the U-boat "happy time" of 1940 and the situation at the end of 1943? To answer this it is necessary to understand the conditions for a wolfpack attack to develop and to understand some of the possible means for preventing such a development.

First, the convoy must be detected and its presence reported to U-boat operational command. Although search aircraft were occasionally employed, this usually took the form of a closely (approximately 25 nautical miles) spaced line of U-boats stretched across the estimated convoy track. Reporting was done by high frequency to the

shore-based command. (Sea-based command had been tried and discarded as being sometimes difficult and in any ease unnecessary.)

Secondly, the U-boats involved must be informed of the situation and given appropriate orders. This was done by frequent high frequency transmissions from Doenitz' headquarters.

Thirdly, each U-boat involved must either be "told," or must be able to determine for itself, the position of the convoy relative to its own position. Firther, this information must be updated frequently. Two methods were employed to accomplish this. In the first, "absolute" geographic coordinates of the target were broadcast. However, because navigational/positional errors were apt to result in "intercept" ranges in excess of detection range, a second method was preferred. In this, a U-boat would shadow the convoy closely while emitting beacon signals for other Uboats to home on.

Fourthly, the U-boat must possess a position and/or speed advantage to enable it physically to close the convoy within the time allotted. There was no workable "standard" procedure for ensuring that a U-boat would indeed be able to close the convoy. To the extent possible, the situation was mitigated by "enlightened" prepositioning of U-boats, by allowing considerable time for closure prior to the attack, and by using the higher speed available when running on the surface. (This latter was in fact essential.)

Fifth, although not a requisite of the pack tactic, U-boat high command and the U-boats involved must maintain a "tactical picture" as the pack assembles and after the attacks begin. This was accomplished by the use of extensive high frequency and very high frequency transmissions between the parties involved.

Broadly, the development of the wolfpack attack required detection of the target (convoy), designation of the target and the U-boats to attack it, target vector information, and physical closure. Should this sequence fail, the wolfpack attack would be prevented.

The Allies recognized these facts. Considering the primary mission to be the safe delivery of cargo, they placed principal emphasis on the frustration of wolfpack attacks. Counters to the U-boats were designed accordingly.

As a counter to the detection threat, evasive routing of convoys was employed. The large number of high frequency transmissions made by the U-boats when intercepted by land-based direction-finding stations provided the approximate location of U-boat concentrations. Should the convoy terminus permit, this information could be used to avoid the U-boat secuting line.

No direct attempts, such as jamming, were taken to interfere with two-way communications between the U-boats and U-boat high command. However, it was realized that intercepts of such signals could provide useful indications of impending attack. Further, it was realized that a U-boat that had been forced below periscope depth could neither transmit nor receive.

Target vector information was denied in a number of ways, In some cases, convoy routes were chosen so as to lie beyond the range of German reconnaissance aircraft. In the more common case, however, such information was forcing the shadowing denied by U-boat(s) below so that it could not transmit homing signals and so that it could not keep pace with the convoy. In accomplishing this task, shipborne high frequency direction finding proved particularly useful: not only did it indicate the presence of the transmitting U-boat, it also provided the approximate bear-

A wide variety of methods, most of them complementary, were employed to prevent a significant number of U-boats from physically closing the convoy. Evasive routing was used to deny U-boats a favorable position from which to initiate closure, and zigzag plans were used to complicate the approach

process.

Most useful of all were the methods for denying the U-boat the advantage of his surface speed. With an economical submerged speed of 4 knots versus 12 knots on the surface, 10 a submerged U-boat stood little chance of closing unless fortunate enough to lie ahead of the convoy along its intended track. In addition to the favorable time-distance factor, a submerged U-boat would soon lose the tactical "picture" and, if sufficiently pursued, might either be dissuaded from further efforts or "killed."

Early Allied efforts to deny U-boats the surface consisted of feints by the escort and the extensive use (at night) of star shell. Subsequently, escorts were fitted with surface-search radar and radio direction-finding gear. Aircraft similarly equipped were introduced. Initially, these were available only near land, but by 1943 the escort carrier had come into use. Along with the sensors went improvements in weapons: more depth charges on escorts, ahead-thrown weapons, aircraft depth bombs, et cetera.

As the Battle for the Atlantic progressed, there was a continual increase in the quality of sensors and weapons, especially radar, and a concomitant increase in the number of vehicles available to employ them. ¹¹ By the end of 1943 the wolfpack threat had been contained and resources became available both to defend convoys and to hunt U-boats.

Having examined the advantages of the submarine pack tactic and the means by which it was defeated in World War II, it is interesting to compare the situation then and now. In the area of weapons, current submarine and antisubmarine systems permit a "hit" with an attack error that was formerly a miss: this is achieved either through the use of nuclear explosives or of selfguiding homing weapons. Some of these weapons, rocket or jet propelled, may be employed at greatly enhanced ranges.

The performance of sensors has shown a similar improvement. Submarines now carry passive sonars that can detect suitable targets at tens of miles and so no longer rely primarily on visual detection. Aircraft are equipped with expendable sonobuoys having a similar detection capability, and escorts are fitted with powerful low frequency active sonars. Radars, high frequency direction-finding equipments, and radar intercept warning receivers have all been improved.

These changes, although impressive from a purely technological point of view, do not appear to have led to a clear advantage for either the submarine or antisubmarine sides. There is, however, one change since World War II that does not appear to have been countered: the submarine need no longer operate on the surface at all. In the case of the Snorkel-equipped diesel submarine, the principal advantage lies in the relative immunity against radar and visual detection. Generally, although

BIOGRAPHIC SUMMARY



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such a submarine is not hampered by underwater endurance, it is still limited somewhat by its submerged speed. 12 The nuclear-powered submarine, when operated prudently, enjoys an even greater immunity to radar and visual detection. It is not limited by submerged speed and can run as fast, or

faster, than the convoy or its escorts.

Modern technology has thus eliminated the decisive element in the defeat of the wolfpack tactic, the lack of subsurface mobility. Whether such a tactic is optimum today is moot. However, it is apparent that the coordinated submarine attack is once again feasible.

FOOTNOTES

- 1. Karl Doenitz, Memoirs: Ten Years and Twenty Days (Cleveland: World, 1959), p. 4.
- 2. Evidence of this belief, although circumstantial, is convincing; for example, see Donald Macintyre, Fighting Under the Sea (New York: Norton, 1965).
 - 3. Doenitz.
 - 4. Ibid., p. 107.
- 5, Stephen W. Roskill, The War at Sea 1939-1945 (London: H.M. Stationery Off., 1954), v. I, p. 354,
- 6. Sir Winston L.S. Churchill, The Second World War: Their Finest Hour (Boston: Houghton Mifflin, 1949), v. II, p. 598.
 - 7. Roskill, v. II, p. 367.
- 8. For pertinent statistics in support of this conclusion, the reader is referred to U.S. Office of the Chief of Naval Operations, "Antisubmarine Warfare in World War II," OEG Report No. 51 (Washington, D.C.: 1946), p. 84.
- 9. The choice to counter the wolfpack rather than to simply "kill" the largest number of U-boats appears to have been appropriate. Although the Germans had roughly four times as many U-boats at sea from 1943 onwards as they had in 1940, the wolfpack had been beaten.
 - 10. Doenitz, appendix I.
- 11. Even in the period 1940-1943, the Germans introduced counters to the Allies' counters, primarily radar intercept receivers and increased antiaircraft armament. However, they tended to lag the Allies and their major innovation, the snorkel, was introduced almost at the end of World War II.
- 12. Although characteristic of most operational diesel boats, underwater speed limitations can largely be eliminated through proper hull design such as employed in the U.S. Navy Barbel class.



In many ways, the submarine takes the art of the guerrilla to sea. The same features prevail: stealth and concealment: ambush and evasion; anonymity and ambiguity; initiative and surprise. It is a made-to-order instrument for an enemy which has traditionally sought its victories at limited commitment and cost.

> Vice Admiral John S. Thach, USN, to the Royal Australian Naval College. 27 March 1963

The TFX/F-111 has been making headlines for nearly 10 years and is still an emotionally charged case in military management. The elements of the case and the implication for the defense manager are profound and deserve the sincere attention of all who have a function or interest in this Nation's security.

THE TFX F-111 AIRCRAFT:

A PERSPECTIVE IN MILITARY COMMAND

AND DEFENSE MANAGEMENT

An article prepared

by

Rear Admiral Henry E. Eccles, U.S. Navy (Ret.)

Introduction. In the last 15 years, U.S. military affairs have been dominated by three highly controversial matters:

- II cavy combat involvement in Southeast Asia.
- The design and production of advanced weapons systems.
- The introduction of sophisticated management concepts in the Department of Defense.

These matters share three major attributes: all have aroused strong emotions, all are very complex, and all three illustrate the conflict between established concepts and habits of thought and the new ideas of ambitions, aggressive young men. More important, however, is the fact that sophisticated management concepts played an important part in the latter two problems.

While we cannot hope to resolve all the differences among the contending ideas on these subjects, we nevertheless should learn what we can as soon as possible. The first step in such a learning process is to understand what has happened and then we must, to the best of our ability, determine why it happened. Such an investigation must necessarily be a continuing historical analysis of the pertinent military-political events that hear on the problem. In a broader eontext and as illustrated in figure 1, historical analysis such as this is an essential to military theory and education,* and it should include case historics of both success and failure, for instance:

^{*}See Henry E. Eccles, "Military Theory and Education; the Need for and Nature of," Naval War College Review, February 1969, p. 70-79.

Figure 1

Examples of Success:

Grant's Vicksburg Campaign—1863
Fleet tng Navajo—1940
Marshall Islands and
Marianas Campaign—1944
General Motors 271 diesel
Jeep
F-4 fighter
U.S.S. Nautilus

Examples of Failures:

Loading out for Santiago-1898 British Flanders Campaign-1917 Suez-1956 Bay of Pigs-1961 TFX/F-111-1961-1970

The full story of the TFX/F-111 aircraft probably can never be adequately told in a single book. Nevertheless, with the release of the McClellan Snbcommittee Report,* the mass of authoritative evidence is now adequate to draw significant conclusions and relearn important lessons. This paper is based on unclassified sources, particularly the U.S. Senate TFX Investigating Committee report of 1963,2 the Senate and House Armed Forces Committee hearings on military procurement and posture of 1967 and 1968,3 Robert Art's book, The TFX Decision,4 and special articles in Barron's and Fortune.6

What I present is therefore only an introduction to a fascinating and important case history which, like the Suez crisis of 1956 and the Bay of Pigs in 1961, will affect the security of the United States for many years.

As with many other national problems, the case of the TFX/F-111 has beeu an emotional controversy. For example, in an editorial on 29 December 1970, The Washington Post stated:

It was eight years ago this month when the Senate Perma-

nent Subcommittee on Investigations first began poking into the contract that the Pentagon was about to sign for an airplane called the TFX. In the years since, no single military contract has stirred so much controversy, so much rancor, and so much distortion of the trnth. The TFX is flying now as the F-111 and the Air Force says it is a superb airplane. Secretary McNamara, on whose head most of the rancor fell, has been gone from the Pentagon almost two years. But last week, in came the Senate Subcommittee with another report on the TFX just as full of bitterness and just as one-sided as was its first round of hearings on this subject in 1963.7

And on 2 January 1971, The New York Times editorial stated:

The final report of the Senate Permanent Investigations Subcommittee on its long inquiry into the F-111 airplane contract might well be called "The Revenge of the Military-Industrial Complex."... As part of his successful effort at the Pentagon to make civilian control a functioning reality for the first time, he eut across service routines and rivalries to insist, wherever possible, on the concept of "commonality"-nse of the same weapon or equipment by all the services. . . . The mistakes which Mr. McNamara made in this instance gnalify but do not offset his many brilliant successes in managing the huge Pentagon establishment and increasing its effectiveness by these same managerial methods.

It is unlikely that the opposing protagonists could even agree on precise, quantifiable criteria by which to jndge

^{*}See appendix I for the summary and conclusions of the McClellan Suhcommittee Report of the TFX Contract Investigation.

this program, let alone accurately analyze the ensuing mass of statistical data. Therefore, it is necessary to go to fundamental theory and principle to achieve understanding.

Strategic realism requires the analysis of Objectives and Assumptions and the appraisal of Expectations. Its very nature requires that the first two processes be largely intuitive or, in other words, political and military objectives—including related assumptions—are largely the fruits of intuitive judgment. The study of Systems Analysis as related to Operational Readiness and Combat Effectiveness is essential to the realistic practical appraisal of military expectations.

The essence of these very basic fundamentals is that the military professional must be able to combine rigorous quantitative analysis* with sound intuitive judgment. Jerome Bruner's comments on intuition are therefore pertinent:

In contrast to analytic thinking, intuitive thinking characteristically does not advance in careful well-defined steps, Indeed, tends to involve maneuvers based seemingly on an implicit perception of the total problem. The thinker arrives at an answer, which may be right or wrong, with little if any awareness of the process by which he reached it. He rarely can provide an adequate account of how he obtained his answer, and he may be unaware of just what aspects of the problem situation he was responding to. Usually intuitive thinking rests on familiarity with the domain of knowledge involved and with its structure, which makes it possible for the thinker to leap about, skipping steps and employing short cuts in a manner that requires a later rechecking of conclusions by more analytic means, whether deductive or inductive. [Emphasis added,]

The complementary nature of intuitive and analytic thinking should, we think, be recognized. Through intuitive thinking the individual may often arrive at solutions to problems, which he would not achieve at all, or at best more slowly, through analytic thinking. Once achieved by intuitive methods, they should if possible be checked by analytic methods, while at the same time being respected as worthy hypotheses for such checking.

Professional judgment and intuition are almost synonymous. In both, the mental process draws on patterns of experience and study imbedded in the subconscious. The recognition of similarities and differences in these matters seems completely unpredictable but it also seems dependent on a special kind of involvement that is akin to the tuning of a radio circuit. An experienced acute mind develops a special feel for a situation which enables it to respond perceptively to an aberration or fault of reason or action which will escape the notice of the untuned mind.9

The Perspective. In dealing with this case, we first should recognize the distinction between command and management. The Army Staff Manual states this clearly: "Good management is one expression of effective command and leadership. Management is inherent in command, although it does not include

^{*}For further discussion on this point, see Stuart J. Yuill, "Quantitative Information for Strategic Decisions," Naval War College Review, November 1970, p. 16-29.

the extensive authority and responsibility of command,"

The President of the United States is the Commander in Chief. He is not titled "The General Manager"! His management responsibilities come from his command status. He delegates his authority in various ways as prescribed by law and his own judgment.

Regardless of what blend of civilian and military authority emerges from these laws and judgments, military command has the responsibilities to create combat forces, to support combat forces, and to employ combat forces; all in order to attain political purposes.

In discharge of these responsibilities, the major political-military decisions are command decisions, the administrative and the routine decisions which result from these major decisions frequently are matters of the applying of management techniques, and thus can be considered "Military Management."

This differentiation is important for many reasons but ebiefly because command decisions may involve the issue of peace or war-they involve the issue of life or death for individuals and for groups. Management education and literature do not discuss such issues nor should we expect trained managers to decide them on the basis of their management experience.

For these reasons, the decisions made in the ease of the TFX should be discussed from the perspective of command if their true implications are to be understood, for they involved the three major responsibilities of command: to create, to support, and to employ combat forces.

The Issues. The central issues posed by the TFX are:

- Civilian control of the military.
- Concepts of operational readiness and combat effectiveness.
- Concepts of requirements determination.

- Concepts of procurement.
- Concepts of logistics and military management.

All of these have many complex subordinate issues; all five are inextricably interwoven, and all are important elements of military theory. All must be dominated by a clear sense of the objective.

Because of its complexity and its far-reaching political, economic, and military implications; the number of powerful personalities involved; and the tens of thousands of pages of evidence the thorough study of the TFX, by itself, would constitute an excellent year's advanced course in logistics and military management. Throughout the whole story there are the twin themesthe nature and use of professional judgment and intuition and the inexorable operation of the law of diminishing returns, particularly as they affect operations research and systems analysis. Ironically, the specific issue of procurement-that of contract awardwhich raised the greatest furor was almost completely irrelevant from the military point of view for there is no evidence that Boeing could have done a significantly better job than General Dynamics. For that reason I will not dwell on the events which apparently took place concerning the contract award in October-November 1962, hut for those who do wish to read a good yarn, I recommend Mr. Seth Kantor's testimony before the McClellan Committee. 1 o

The program objectives were stated on 21 March 1963, when Mr. McNamara in testifying stated:

As a basis for today's discussion, perhaps I can summarize very quickly in 2 or 3 minutes my position. It is simply this: It is my responsibility to make a decision such as this. I made it and I assume full responsibility for it.

My objectives with respect to the TFX Program were three: First, it was my objective to endeavor to introduce during the latter part of this decade into the Air Force and Navy an advance fighter aircraft to replace the F-105's, and F4II's which will be the backbone of the tactical fighter forces of those two forces during the decade of the sixties.

It was my objective to introduce this aircraft in the latter part of the decade, with substantial performance advantages over fighters of the two earlier models, the F-105 and F4H. That was my first objective.

The second objective was to maximize the dependability of the new aircraft, and the third was to minimize its costs. 11

The TFX History. The chronology in appendix II sketches the history of the TFX with special emphasis on the critical phase from its inception to the award of the contract in late 1962. The construction and test periods from 1963 to 1967 are extensively discussed in the June 1967 issue of Fortune 12 and in the reports of the House and Senate Committee Hearings on the Armed Forces Procurement and Appropriations for Fiscal 1969. 13

It is significant that by mid-1967 it was crystal clear that the Navy F-111B was so completely unsatisfactory that it could never be effectively produced and operated. The Navy then officially hedged its position by initiating the VFX study with Grumman in October.

The status of current procurement is shown on figure 2. The later version of the Air Force planes (F-111F's) now in service are performing resonably close to the original standards (see conclusions of appendix 1). The Navy is using its few planes for test purposes, Both

the Air Force and Navy are developing their own follow-on planes, the F-14 and the F-15, which incorporate many of the features of the TFX. While the TFX has performed certain functions in a creditable manner, it is obvious that it failed to meet its stated objectives. This failure has been enormously expensive in money, in energy, and in time.

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23 R&D aircraft (18 F-111A-USAF/5 F-1118-USN)
2 F-111B production aircraft (USN)
2 F-111K for Great Britain (salvaged)
24 F-111C for Australia
76 F8-111 for SAC
141 F-111A for TAC—Nellis AFB
96 F-111D for TAC—Cannon AFB
82 F-111F for TAC—Macdill AFB
94 F-111E for USAF Europe—
RAF Upper Heyford
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Fig. 2-October 1970 Status of F-111 Program

The TFX case, however, is quite different than the usual case of 20-20 hindsight. In this case, the foresight of the military professionals and their experienced civilian assistants was specifically reversed by Secretary McNamara. This is shown by his statement read to the Senate Investigating Subcommittee on 13 March 1963:

The concept of a major multiservice weapons system is new. I would be less than candid with you if I did not admit that the majority of experts in the Navy and Air Force said it couldn't be done. As late as the 22d of August 1961, after the Navy and the Air Force had been working together for almost 8 months, it was reported to me by both services that development of a single TBX aircraft to fulfill stated requirements of both services was not technically feasible.

While this attitude, based on years of going separate ways, was understandable, I did not consider it was a realistic approach,

considering the versatility and capabilities that could be built into a modern aircraft because of advances in technology. I was also convinced that, if we could achieve a single tactical fighter, we would save at least \$1 billion in development, production, maintenance, and operating costs. In short, after study and review, I believed that the development of a single aircraft of genuine tactical utility to both services in the projected time frame was technically feasible and economically desirable. I directed that we continue to work toward this objective. Because this decision was peculiarly my own, I kept myself fully advised of the development of the TFX as it progressed over the succeeding 14 months.

The basic judgments on my part which determined my decision were:

Both the General Dynamics and the Boeing designs met stated military requirements and would provide significant improvements in combat capabilities of the Navy and the Air Force. 14

Mr. McNamara's statements are in sharp contrast to the statements of several naval officers. For example:

On 16 May 1962, Rear Admiral Masterson, the Chief of the Burean of Naval Weapons, in forwarding the report of the Source Selection Board stated:

... concurring in the position taken by the Navy member of the Source Scleetion Board....It is significant that current proposals fail to meet performance requirements and weight goals by a greater margin than the original submission.... Therefore any further effort to meet the joint requirements as presently established cannot be recommended.¹⁵

Rear Admiral Ashworth testified:

The Chairman, Let's see what that meant.

Admiral Ashworth. The following paragraphs explain that, sir. Shall I proceed?

The Chairman. In other words, they were getting further away from an acceptable plane than they were coming closer to it, is that what this meant?

Admiral Ashworth. Yes, sir; exactly.

The Chairman. All right, proceed. 16

And later:

I have added the emphasis to point out that it would appear that the best efforts of the two contractors had proved that it was impossible to arrive at a single design capable of meeting simultaneously the requirements of each service as then defined in the work statement.

... You will recall at the end of the second round, the performance of both aircraft was degraded attempting to meet the requirements of the Air Force and the Navy. 17

Nevertheless, in spite of this sincere opposing point of view, Mr. McNamara on 21 March 1963 testified:

The decision to proceed with the new fighter program was relatively easy to arrive at in November 1962 because by then it was clear that we could meet all our objectives. However, the selection of a source for the development and production of that aircraft was far more difficult. 18

After the initial major decision in 1961, the studies proceeded, and the Source Selection Board was formed to evaluate the proposals of industry. The program gathered momentum and began to occupy more and more time of Government, military, and industrial officials. Although the story is voluminously documented, there are still some obscure aspects which may never be completely clarified. In particular, no one has satisfactorily explained:

- The Seth Kantor story in the Fort Worth Press which announced the selection of General Dynamics as the prime contractor one week before the Source Selection Board selected Boeing.
- The precise influence of President Kennedy, Vice President Johnson, and President Johnson upon Secretary McNamara's decisions.
- What was said in the discussions between the Chiefs of Naval Operations and the Secretaries of the Navy and Secretary of Defense in the period 1961-1967.

However, we do know that:

- At the time it was made, the contract was the largest single contract ever made.
- The Source Selection Board spent about 275,000 man hours in its studies, only to have their recommendations reversed.
- The time of the contract decision—late October and early November 1962—coincided with the critical period of the Cuban missile crisis, 14-28 October, in which top Government officials were intensively involved.
- The total production of F-111's is now forceast at 540, all but 28 for the U.S. Air Force, in contrast to the 1,700 originally planned.
- The development of improved fighters for Navy and Air Force was delayed at least 5 years by the assumption that the F-111 would succeed.
- Once Secretary McNamara left office, the hedge position that he had accepted in 1967 was adopted and the

F-111 program was drastically cut as the F14-AF15 program began to pick up.

• As of late 1970, service experience with the F-111A indicates that the basic concept of a swing-wing fighter bomber combination equipped with advanced avionics is sound and produces a very effective aircraft.

The real tipoff as to the progress of the program occurred when in late 1966 or early 1967 McNamara implicitly acknowledged his personal failure by taking over as F-J11 Project Manager. Every other Saturday he held his personal hearings with the presidents of the contracting companies, making the major decisions as the contractors strove to compensate for the fatal, inescapable, and previously predicted consequences of massive overweight.

The magazine Ordnance in November 1967 commented:

Air Armament-F-111 Project Managers

Both the Air Force and the Navy have replaced their program managers in the controversial F-111 program... There probably has never been a military weapons system development program in which so much administrative interference has been present.

The new managers will, at least, be allowed to attend the biweekly meetings with Sceretary McNamara and the respective presidents of the contractors. This was a privilege not afforded their predecessors until recently. 19

The Significance of Events. Since the chronology gives many details of the course of events up to 1968 and since the June 1967 issue of Fortune provides an excellent account of the problems and the efforts being made to handle them, ²⁰ I will mention only what I consider most significant.

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Naval War College Review, Vol. 24 [1971], No. 4, Art. 1

By January 1966 the reports of the initial tests of the F-111B disclosed serious fundamental defects, primarily caused by excessive weight. The performance was so poor and the nature of the overweight so fundamental that it was abundantly clear that no series of fixes would produce a plane satisfactory for its designed use aboard a carrier.

By this time it was also apparent that the performance of the Air Force version had been fundamentally degraded by incorporating features required only by the Navy version.

In spite of this, the Department of Defense maintained its adamant insistence on proceeding with the original concept.

Fortune commented:

... No matter what contractors did in the way of weight removal they were under strict Department of Defense orders to do it to both the Air Force and the Navy planes.... From the Secretary down, most of the participants—though not all—often seem to be entangled in what seems to be the half-truth or the half-lie because of lack of candor. 21

In November 1967 Ordnance stated:

... the controversial F-111B (once the TFX) has been declared unsuitable as of now for use by the Navy.

Because of its overweight (as of now 16,000 pounds over) further modifications will be necessary in test models.

When the TFX was in the daily headlines at the start of the venture 3½ years ago, the then Assistant Secretary of Defense, Roswell L. Gilpatrick, [sie] would brook no opposition or stand for

any professional criticism of the TFX program. He has departed for other fields of endeavor, leaving carrier commanders, crews, and pilots to sweat it ont in their inability to meet battle missions efficiently.²

The hearings of the Senate Armed Services Committee in Fehrnary 1968 clearly show how the officials of DOD were still strongly supporting the F-111B long after its failnre was well recognized by the Navy.23 The testimony of these officials on critical guestions was frequently irrelevant or evasive or simply uninformed. For example, no one revealed in 1962 that Secretary McNamara had rejected the Weapons System Evaluation Group's (WSEG) first study of the TFX with the words, "This is not the answer I want." Within 6 months after, a second WSEG study and second unfavorable report, the Director of WSEG was relieved.

1 particularly recommend the eareful study of Robert Art's book, The TFX Decision, 24 not only as an invaluable bibliographic reference, but also for some of the special comments which he makes almost parenthetically or in his footnotes. On page 161, without apparently appreciating the disastrous results of McNamara's TFX decision, he writes almost admiringly:

The revolutionary manner in which McNamara made his decisions (revolutionary, that is, for the Defense Department) transferred the "expert" eareer burcaucrat into the "novice" and the "inexperienced political appointce" into the "professional." By demanding that decisions be made through a cost-effectiveness analysis, McNamara freed himself from the Secretary's usual dependence on the experience and knowledge of the military officer and the career civil servant. By

demanding something that only he and his small personal staff possessed and had competence to do, McNamara declared insufficient, or invalid, or both, the customary criteria for making decisions and the traditional grounds for making them. ²⁵

Program Results. It behooves us to learn as much as we can from this affair. It is irrelevant simply to ask the question: Is the present operating version of the TFX/F-111 a good military aircraft? The issue in this case is whether or not the aircraft met the objectives of the TFX program as stated by Secretary McNaniara in 1963:

- To provide advanced fighter for Air Force and Navy to be introduced in the late sixties,
- To maximize dependability of the new aircraft,
- To minimize its costs (implement commonality).

As of January 1971, the results of the TFX program are:

- The development of suitable planes for Navy and Air Force was delayed at least 5 years,
- Large sums of money, talent, and energy were wasted,
- Self-deception, official equivocation, and misrepresentation were encouraged,
- Confidence in the high command was diminished,
- Relations between Congress and the Executive were unnecessarily strained,
- Both our military posture and our defense system were damaged. The integrity of the procurement system was undermined,
- The British and Australian defense plans were disrupted, and our relations with these allies were harmed,
- Managerial talent and executive energy of very senior members of the executive branch were diverted to an

unproductive project when they were badly needed elsewhere, i.e., Victnam,

• Finally, one of the worst features of the TFX/F-111 affair has been that in the recent controversy over the military industrial complex the military have been blamed for the excess cost of the procurement programs. Those who demand more civilian control seem to forget that, as Robert Art writes, civilians dominated the entire concept and program.

The failure of the program was caused by a disastrous combination of intellectual faults, to wit:

- Pushing state of art in a dual-purpose aircraft simultaneously in:
 - -Aerodynamics
 - -Metallurgy and fabrication
 - --Propulsion
 - -Electronics and Weapoury
 - False assumptions as to:
 - -Cost and time of development
 - -Cost of production
 - Nature of commonality
 - Cost of commonality—both in degraded performance and in side effects, such as carrier modification.
- Failure of the Secretary of Defense to appreciate the regenerative or snowball effect of excess weight in both performance and cost. This weight reduced performance in acceleration, climbing, maneuvering, and landing. This had to be "fixed" by additional engine power, which in turn raised the cost for the additional power itself required more time, money, fuel, and weight. Furthermore, there was a reduction in flexibility for the excessive weight left no room for future improvement.

As these regenerative cumulative faults appeared, they were compounded by a further very common and plausible fault. The integrity and continuation of an approved program became the main objective rather than the accomplish-

ment of the objective for which the program was instituted.*

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Conclusions and Observations, Mr. McNamara as Secretary of Defense had some notable accomplishments on his record. He had forced the services to make an improved and more rigorous relation of logistical programs to national strategy and to force structure. This involved more extensive and better quantification than that previously used. He had assumed personal responsibility for closing unneeded military installations and had been unusually successful. He had shown courage in cutting back programs which had strong popular support but uncertain military justification. He strengthened other useful programs that had been starved.

The claims for dollar savings in his administration are difficult to measure: first, because many of these claims cannot be verified without a better knowledge of the need for reserve stocks; second, many successful measures were instituted in previous administrations and came to fulfillment in his; third, some of his advertised cost savings, as for example, great reduction in cost of packaging for overseas shipment of Navy material, caused unnecessary waste in Vietnam.

The very vigor of his administration attracted strong support and strong dissent with protagonists of both sides quick to emphasize or perhaps exaggerate the evidence in favor of the particular position taken.

On the basis of the public record, the TFX case is a clash of two intuitive judgments—one by Navy professional planners represented by Admiral Anderson, Rear Admiral Ashworth, and Mr. Spangenberg, the senior Navy civilian on the Source Selection Board, all of whom

had had years of practical experience and responsibility in the operational field of knowledge involved; the other that of Robert McNamara who had had no experience or active responsibility in that operational field of knowledge.

No real new lessons have been derived from the TFX study. Fundamental principles cannot be violated with impunity, and the result of the program was predictable and was predicted. The whole affair illustrates that there is simply no substitute for professional competence, and that the cost for persistence in a hopeless venture can be enormous and incalculable.

But we must not forget that other factors contributed to the desire to impose greater civilian control on military affairs. For example:

- The basic size and complexity of the issues of strategy, weapons procurement, and budget allocation became frustrating which in turn caused an exaggerated reaction toward centralization.
- The military themselves had indulged in dishonest justification for

BIOGRAPHIC SUMMARY



Rear Adm. Henry E. Eccles, U.S. Navy (Ret.), graduated from the U.S. Naval Academy, Class of 1922. He holds a master of science degree from Columbia University, is a graduate of the Naval War Col-

lege, and is currently serving as a consultant for logistics at the War College.

He has had a variety of duty in submarines, destroyers, cruisers, battleships, and in 1946-47 commanded the U.S.S. Washington. Prior to his retirement in 1952, he was Assistant Chief of Staff for Logistics, Commander Allied Forces, Southern Europe. His publications include: Military Concepts and Philosophy; Basic Logistics; Cuba-October 1962; and numerous articles for professional journals.

^{*}A case in point is the Battle of Flanders, from July to November 1917, when 300,000 British troops were killed for no significant gain.

expensive projects. Slanted staff studies were frequent and were expected.

- Senior military men knowlingly and deliberately refused to undertake adequate logistic research in 1952-1961.
- Logistic duties were known as "the kiss of death." Logistic education was inadequate.
- When Mr. McNamara took office, most so-called "strategie" and "contingency" plans were worthless because they were not logistically supportable, thus destroying the credibility of our senior officers who had responsibility for formulating such plans.

Therefore, the military professional should not feel in any way complacent because in this affair the professional turned out to be right and the civilian secretariat wrong, for the intangible "integrity of command" had been violated repeatedly and flagrantly by military professionals. The slang expressions such as "Don't let it happen on my watch," "Don't make waves,"

and "Your job is to make your boss look good" are just as bad as the overt misrepresentation and ruthless repression of dissent shown in the TFX investigation.

While the TFX case has not produced any revolutionary concepts or insights in management, it does shed some light on the whole philosophy of bureaucratic organization and decisionmaking.

In the late 25 years political, economic, social, and military concepts have changed throughout the world to a degree which approaches a massive cultural transformation. Among others there has been a major change in the structure and concepts of high military command as shown in figure 3.

Much of this change in the meaning and organization of command has been inevitable. Some of it has been wise, some has been unwise. In particular, the manner in which civilian control has been exercised through highly cen-

EVOLUTION OF MODERN HIGH COMMAND

1

INDUSTRIAL REVOLUTION INVOLVED WHOLE NATION IN ANY WAR.

2

TECHNOLOGICAL REVOLUTION PRODUCED:

A. THERMO NUCLEAR MISSILES WHICH THREATEN WORLD DISASTER, WITH CONSEQUENT DEMAND FOR.

RAPID INTELLIGENCE.

QUICK DECISION & ACTION . STRICT POLITICAL CONTROL.

B. DATA PROCESSING.
ADVANCED RECONNAISSANCE.
FAST COMMUNICATIONS.
FAST TRANSPORTATION.

PROVIDED NEW CAPABILITIES.

3

NEW CONCEPT IN NATURE AND EXERCISE OF COMMAND.

4

INSTITUTIONALIZATION . CENTRALIZATION . CIVILIANIZATION .

AND

ELABORATE ELECTRONIC COMMAND CONTROL SYSTEMS.

Figure 3

tralized operational decisions has been unsatisfactory, frequently frustrating, and sometimes counterproductive.

The true malignancy of bureaueracy is caused by a well-known fact: when you take the power of decision away from a mau, you simultaneously start to reduce both his inclination and his ability to make decisions.

The same principle applies to institutions. When you frustrate the responsible action of a high-level institution, its best members leave it and organizational degeneration is inevitable. Also, when men are deprived of authority, they tend to become adept in shirking or avoiding responsibility and in covering np mistakes.

This, in turn, produces a variety of harmful effects:

• Men become afraid to act decisively in times of emergency.

- They lose their ability for clear analytical thought.
- The image of the service or of the man becomes the goal rather than the substantive realities of combat effectiveness and efficiency.
- They lose their credibility in the eyes of their subordinates.
- Actual responsibility becomes overly diffused throughout the necessarily large personal staff of the top command structure with consequent loss of effective command control.

The cumulative effect becomes a form of moral and intellectual corruption, a continuing degeneration in the integrity of command and a consequent loss of morale and combat effectiveness. Evidences of this degeneration are best seen in the Victnam war and the incidents involving the *Pueblo* and the Coast Guard enter *Vigilant*.

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APPENDIX I-TFX CONTRACT INVESTIGATION REPORT

91st Cong., 2d sess., Senate #91-1496

SUMMARY AND CONCLUSIONS

SUMMARY

The history of the TFX program is one of a series of management blunders, a series of poor decisions at the highest levels of the Department of Defense, which compounded error upon error as the TFX program stumbled along year after year. This report on the history of the program shows that at least five major management errors were made during the course of the program, as follows:

First, the original decision by Defense Secretary McNamara to start the TFX program, made on September 1, 1961, was wrong

This decision to proceed with a multimission TFX overruled the recommendations of the Air Force and Navy that separate TFX aircraft developments should be undertaken. The service recommendations were based on careful studies which showed the multimission airplane project to be technically infeasible if the separate mission requirements were to be attempted with one airplane. However, the project was ordered started by Defense Secretary McNamara without any attempt to resolve the fundamental incompatibility in design requirements between a carrier-based air superiority fighter and a land-based supersonic ground attack fighter-bomber. The program was doomed to failure right from the beginning.

Second, the decision in November of 1962 to choose the second best TFX proposal at the higher price was wrong

The decision of the civilian Secretaries in overruling the recommendations of an objective source selection process, without consultation or advice on the merits of their action, constituted inexeusable procedure by high ranking Government officials. This assumes, of course, that the contract was awarded to General Dynamics Corp. for the reasons stated in the official memorandum for the record outlining the Secretaries' rationale for their decision. In addition, the tenacious defense of the contract award when the decision was questioned and the insistence upon the worth of their unprofessional stated judgments on such technical issues as commonality, titanium, thrust reversers, et cetera, had the effect of locking the Secretaries into an inflexible policy on design changes during research and development. The effect of their arbitrary stand was to prevent desirable technical changes from being made in the selected design because these factors had been stated as reasons for rejecting the top-rated proposal.

Third, the failure to heed warnings in February, July, and October of 1964, of technical difficulties and to allow redesign of the F-111B was wrong

If the advice to redesign the Navy plane had been heeded at this very early state of the research and development program, then a useful F-111B most probably could have been produced. This step would

have required the admission of the error of the multimission decision of September 1961 and the failure of the commonality concept which was emphasized in the contract award of 1962, but it would have saved hundreds of millions of dollars which ultimately were wasted and would have enhanced the Nation's defense posture by providing a combat-worthy airplane at an early date.

Fourth, the order to start Project Icarus in August of 1966, and to place personal management of the TFX in the Secretary of Defense's office, was a poor management decision. Obviously it was made in desperation

The imposition of Project Icarus upon the program reflected a lack of perception of the true import of the research and development results at that time, which had shown conclusively the lack of potential in the F-111 airplanes ever to fulfill their operational requirements. Project Icarus also resulted in interference with the services' management of the program without resulting in any substantive improvements to the designs of the F-111's.

Fifth, the decision to continue the production line on the F-111A in April-May 1967 was wrong

Production should have been stopped at that time until the many technical design problems were solved and the fixes were tested. The problems all had been reported to the Project Icarus meetings and discussed therein. The result of the decision to continue with production was the building of hundreds of inferior and substandard tactical F-111's. Because of this, the available funds for the F-111 program largely were used up on inferior versions of the airplane, and the Air Force could no longer afford to buy the adequate aircraft, the F-111F, which finally emerged.

These major management errors in the TFX/F-111 program all occurred at critical points in the history of the program, points where sound judgment in accepting the advice and counsel of the professionals and experts whose job it was to procure aircraft for the Department of Defense would have resulted in vastly different results for the

TFX program.

Certainly the evidence is unimpeachable that the multimission program never should have been started. But once that error was made, selecting the airplane design rated as the second-best attempt to fulfill the impossible requirement was compounding error with error. Whether this selection error was made for the reasons stated, such as "commonality," or for other unacknowledged reasons, it certainly represented a second-best attempt to rectify a previous blunder.

The refusal in 1964 to recognize that the previous actions had resulted in failure, and the insistence then that the commonality principle be maintained at that critical point in the program obviated the last chance to salvage the TFX and to produce superior (but separate) aircraft for the Air Force and Navy. At this early stage of research and development it would have been possible to reorient the TFX's into two separate airplane designs unencumbered by the commonality requirement, with very little waste of money or slippage in schedule. The refusal to admit to failure at this point in the TFX's history was the most inexcusable error because it was made when the evidence of failure was overwhelming and irrefutable.

The decisions which followed—the personal attempt by the Secretary of Defense to manage the program through Project Icarus and the decision to continue production without completing research and development—simply continued to compound the effects of the previous errors. These decisions to continue the program were made in the face of conclusive evidence from the flight tests of the planes that they were deficient—for instance, they were grossly underpowered—in their tested configurations. A principal result of these decisions to press on with the production program was, as stated before, to use up funds available for tactical F-111's largely in the purchase of hundreds of inferior F–111's.

Conclusions

The TFX program has been a failure. The Federal Government will spend more than \$7.8 billion to procure about 500 aircraft, although the original production schedule called for more than 1,700 aircraft to be purchased for less money. Of the 500 planes we will have, less than 100 (the F-111F's) come reasonably close to meeting the original standards. Spending so great a sum for so few aircraft represents a fiscal blunder of the greatest magnitude. It is clear that vital financial resources were squandered in the attempt to make the TFX program

produce satisfactory results.

The billion dollar savings in the TFX program, so grandilognently promised by Secretary of Defense McNamara, became instead a directly accountable waste of more than one-half billion dollars spent on the F-111B, the F-111K and the RF-111 versions of the plane, all of which were unacceptable and had to be cancelled and abandoned before production. The total failure of the attempt to produce a satisfactory F-111B has caused a long and unnecessary delay in filling the Navy's requirement for a new carrier-based fighter. The lack of fighter maneuverability in the Air Force versions of the F-111 plane made it necessary to undertake the development of another fighter—the F-15—to fill this role for the Air Force in the 1970's. The excessive costs of the Air Force versions forced drastic cutbacks in the numbers of aircraft which can be procured to fill the tactical and strategic inventory. The long delays in getting the F-111's into operational use certainly have had an adverse impact on our defense posture.

Aside from the serious impact which the TFX program has had upon our national security and aside from the obvious waste of scarce resources, the TFX case also has affected public confidence in our defense establishment. As this report makes clear, the primary cause of the TFX fiaseo was mismanagement. A series of management blunders, made for various reasons, compounded errors with more errors and caused the failure of the program. The management blunders were made at the highest echelons of the Government. Top Presidential appointees in the Department of Defense during the McNamara era overrode expert advice to impose personal judgments on complex matters beyond their expertise. These same officials then made extraordinary efforts to conceal the results of their errors in the TFX case. These efforts included deliberate attempts to deceive the Congress, the press, and the American people. Understandably, this sorry record has done nothing to enhance public confidence in the integrity and competence of the people who are charged with preserving the national security. Nor has it improved the public image of the Department of Defense. What should be done to correct these conditions? Announcements have already been made of greater decentralization of the management system within the Pentagon so that technical aspects of weapons development programs would be managed where they should be—by the individual services which eventually will be responsible for using in combat the weapons that they develop. There is stated to be increased awareness of the need for current and valid assessments of program status and progress. There also is stated to be concern with the problems of conducting research and development concurrent with early production. The subcommittee believes that these trends in management policies, if diligently followed, could lead to improvements in the weapons acquisition process and in management effectiveness within the Pentagon.

The subcommittee is hopeful that the civilians who now run the Department of Defense, as well as those who will follow, will be committed to a policy of candor and truthfulness in their relations with the press, the public, and the Congress. Such a policy, if observed, should do much to improve public confidence in the credibility of the

Pentagon.

It would be foolhardy, however, to assume that such errors as are exemplified in the TFX program could not be repeated. A major lesson of the TFX case is that the Congress must not hesitate, in the exercise of its oversight function, to examine major procurement procedures, decisions, and programs, particularly whenever there is obvious deviation from established practices. The Congress must be ever watchful, because there could be recurrences of the serious and damaging mismanagement that attended the TFX program from its inception, as reflected in the subcommittee's hearings and as summarized in this report.

The following members of the Senate Permanent Subcommittee on Investigations have approved this report:

JOHN L. McCLELLAN. HENRY M. JACKSON. SAM J. ERVIN. ABRAHAM RIBICOFF. LEE METCALE. KARL E. MUNDT. CHARLES H. PERCY. EDWARD J. GURNEY.

The members of the Committee on Government Operations, except those who were members of the Senate Permanent Subcommittee on Investigations, did not sit in on the hearings and executive sessions on which the above report was prepared. Under these circumstances, they have taken no part in the preparation and submission of the report, except to authorize its filing as a report made by the subcommittee.

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APPENDIX II-TFX/F-111 CHRONOLOGY

	THE TOTAL TOTAL CONTROL OF THE CONTR
1958-59	Boeing and General Dynamics started small-scale wind tunnel tests of TFX concept on assumption Air Force would need advanced tactical fighter.
Early 1960	Navy proposed F-6D Missileer to succeed F-4H tactical fighter for fleet air defense.
March 1960	NASA tested swing-wing design—declared technically sound.
April 1960	Air Force R&D and TAC and NASA agreed on swing-wing tactical fighter. Proposed 16 test aircraft first flight test for May 1963. OPS AVAILABILITY Oct 1965.
June 1960	SOR 183 issued by AF IIQ.
November 1960	Secretary Gates halted work on both TFX and F-6D to avoid committing Kennedy administration.
February 1961	McNamara says TFX should be made to fulfill requirements of Air Force, Navy, and Army.
9 March 1961	Assistant Secretary Navy R&D Wakelin stated to Dr. York, DOD Director of R&D, that TFX (SOR 183) not suitable for Navy and warned against overemphasis on "commonality."
7 June 1961	McNamara concludes TFX should fulfill requirements of only Air Force and Navy.
22 August 1961	Air Force and Navy report to McNamara they are unable to reach agreement over joint requirements for TFX.
1 September 1961	Secretary McNamara authorized joint development program (estimated savings of \$1 billion over separate programs).
1 September 1961	DOD announces new tactical fighter program for U.S. Air Force and U.S. Navy, naming U.S. Air Force as executive agent for the program.
1 September 1961	McNamara unilaterally sets requirements for Air Force and Navy for TFX.
1 October 1961	Air Force issues request for proposal and work statement to airframe industry.
6 December 1961	Six leading aircraft manufacturers submit first proposals regarding tactical fighter to DOD, Source Selection Board,
19 January 1962	Source Selection Board votes unanimously to recommend Boeing as winner of TFX contract.
24 January 1962	Air Force Council rejects Source Selection Board's decision and recommends 8-week extended competition between Boeing and General Dynamics-Grumman.
1 April 1962	Boeing and General Dynamics-Grumman submit second proposals to Source Selection Board.
May 1962	Source Selection Board (14 May) and Air Force Council (24 May) recommend award of contract to Boeing, but Navy refuses to go along.
Late May 1962	Korth and Zuekert reject decision and order a third 3-week competition between Boeing and General Dynamics-Grumman. Boeing and General Dynamics-Grumman submit third proposals to Source Selection Board.
20-21 June 1962	Source Selection Board and Air Force Council again recommend award of TFX contract to Boeing, but Navy refuses to go along.
1 July 1962	MeNamara orders final runoff between Boeing and General Dynamics-Grumman on basis of open "payoff points."

11 September 1962 Boeing and General Dynamics-Grumman submit their fourth and last proposals to Source Selection Board. Mid October 1962 Evaluation by Source Selection Board. 14-28 October 1962 CUBAN MISSILE CRISIS. 15 October 1962 Navy decided on Boeing. 24 October 1962 Forth Worth Press announced selection General Dynamics (Kantor story). 2 November 1962 Source Selection Board unanimously selected Boeing. 7-8 November 1962 Generals Sweeney, Bradley, Schriever and Admiral Masterson conentred. 8 November 1962 General LcMay, Admiral Anderson concurred. 9 November 1962 Secretaries Korth and Zuckert briefed in latter's office. 9-24 November 1962 Secretaries considered. 18 November 1962 Secretary Zuckert made up his mind as to award. 21 November 1962 Secretary Zuckert wrote memo also signed by Secretary Korth and concurred in by Secretary McNamara; RECOMMENDED GENERAL DYNAMICS. 23 November 1962 Secretary Zuckert informed General LeMay that General Dynamics had been selected. 24 November 1962 DOD names General Dynamics prime contractor for development of 23 tactical fighters, now called F-111, with Grumman as principal and associate subcontractor. (18 for U.S. Air Force, 5 for U.S. Navy) 1 August 1963 Air Force Secretary Zuckert testified at length as to impossibility of making accurate cost forecasts of complex new weapons systems, (p. 2100-2126 of Senate TFX Investigation). 24 October 1963 DOD announces Australian Government agreement to purchase 24 F-111's for the Royal Australian Air Force, Est. cost \$125 million. January 1964 Superweight improvement program instituted (SWIP). **April 1964** Production contract to General Dynamics for 431 F-111's through 1969. Eventual procurement forecast as 1,600, 21 December 1964 First F-111A flight completed at Forth Worth, Tex. 6 January 1965 Variable wing tested for first time at Forth Worth, Tex. 5 March 1965 F-111 completes its first supersonic flight. 6 April 1965 Secretary of Defense Robert S. McNamara confirmed the U.S. Government had made an arrangement with the British Government enabling Great Britain to obtain F-111 aircraft for the Royal Air Force. 12 April 1965 DOD announced letter contract for 431 production F-111 aircraft. 10 May 1965 Lt. Col. James W. Wood becomes the first Air Force pilot to fly the F-111A. 2 July 1965 Grumman completes first supersonic flight with F-111B version. 27 July 1965 Capt. D.C. Davis, USN, becomes the first Navy pilot to fly the F-111. 8 October 1965 Group Capt. C.H. Spurgeon, Royal Australian Air Force, flew the F-111 at the Air Force Flight Test Center to become the first foreign pilot to fly the Air Force's latest fighter.

Secretary of Defense announces decision to develop RF-111A

tactical reconnaissance version of the F-111.

3 December 1965

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10 December 1965 Plan announced to develop the FB-111 strategic bomber version of the F-111. 16 December 1965 RAF Wing Comdr. G.R.K. Fletcher becomes the first British pilot to fly the F-111. 7 January 1966 U.S. Naval Air Test Center made final report on Phase 1 preliminary evaluation of F-111B airplane FT 030R-65 (CONF) stating the F-111B airplane unsatisfactory for service usc. British announce intention to purchase F-111 aircraft for the Royal 22 February 1966 Air Force. 27 May 1966 The first production prototype F-111, aircraft number 12 in the test series, made its initial flight at Forth Worth, Tex. This aircraft incorporated all the significant changes based on the flight test program. Sceretary McNamara took personal charge of Program. He became August 1966 the project Manager of "Project Icarus." Navy initiated VFX study and received proposals from Grumman October 1967 and later from three other companies for plane to do fleet air defense at less weight than F-111B. British canceled order for F-111. January 1968 February 1968 Secretary of Defense estimated cost of 235 F-111A through FY 1969 as \$6.76 million each. 2 February 1968 Secretary McNamara stated Navy VFAX would be possible alternative if F-111B did not perform satisfactorily but that this scemed unlikely. Secretary MeNamara testified to Senate Armed Forces Committee 2 February 1968 that all present analyses indicated F-111B would function satisfactorily on and off the earrier. Page 501. In questioning Dr. Foster, Scnator Symington stated in 15 February 1968 Senate Hearing "it is hard to follow reasons why it is better for us to keep on fighting to get the F-111B the right airplane for the Navy, when nobody in the Navy wants it." 1 March 1968 Clark Clifford succeeded Robert McNamara as Secretary of Defense. 4 March 1968 Senator Symington stated at hearing that nearly all DOD statements about cost and performance had been wrong and that he had found service disagreement to point of contempt for efforts to promote TFX/F-111B. 4 March 196B Senator Symington at F-111B hearing mentioned that the determination of DOD to make "an honest woman" out of the TFX had prevented development and production of adequate missile system. 4 March 196B Secretary of the Navy Ignatius stated fly away cost F-111B as around \$8 million. 4 March 1968 Secretary of the Navy Ignatius testified to Senate Armed Forces Committee that he anticipated that "production-eonfigured F-111B-will satisfactorily meet urgent requirement for supersonic platform for highly promising PHOENIX missile eystem." And that Navy requested funds for 30 production F-111B aircraft to begin fleet introduction. 4 March 1968 Secretary of the Navy Ignatius and Asst. Secretary of the Navy Frosch, Admiral Moorer, and Vice Admiral Connolly discussed at

length with Senate Armed Forces Committee the pros and cons of canceling F-111B; at conclusion Senator Stennis stated that he couldn't go on buying F-111B's "with the unfortunate limitations it

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has."

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2 May 1968	Representative Hardy of House Armed Services Committee stated "we have been milked by the F-HH up to now, I hate to see us pouring more money trying to make something work which was a brainstorm that ought not to have been started."		
6 June 1968	Secretary of the Navy Ignatius reported to House that as a result of Navy Fighter Study Group work, Navy reduced requirement from 30 to 8 in FY 1969 budget. (The hedged approach.)		
20 June 1968	Dr. Froseh stated that Senate Armed Forces Committee had authorized no funds for F-111B.		
24 June 1968	Secretary of Air Force Harold Brown stated that F-111A was proving to be an outstanding aircraft in actual combat operations in SE Asia.		
25 June 1968	At House Armed Services Committee, Secretary Brown and General McConnell, USAF, expressed vital need for an all-weather fan jet variable sweep-wing plane with good avionies and that F-111 would provide this vital capability better than any available aircraft. They did not answer Mr. Bates' question "If you could turn the clock back would you go down the same road?"		
4 September 1968	Australia took delivery of its first F-111C at Forth Worth and later announced it would take no more until defects were corrected.		
7 October 1968	Senator Symington suggested terminating the F-111 program.		
October 1968	Estimated cost for Australian order \$294 million.		
8 October 1968	Australia's 24 F-111's ordered in 1963 now 18 months behind schedule.		
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The Armed Forces will never show a dollar-and cents profit.

Observation by unidentified officer, c. 1950, quoted in the Professional Soldier, Janowitz.



THE BAROMETER

(This discussion is in reply to Mr. Neil Sheehan's article titled "The Role of the Press" published in the February issue.)

"A Reply to Mr. Neil Sheehan" by S.L.A. Marshall

Having spent 50 years in the same business, I believe there is need for some rebuttal to the lead article of the February Review wherein Neil Sheehan of The New York Times aired his opinions on the role and responsibility of the press.

There are three reasons for proeceding.

- The magazine and college by listening and publishing contributed of their prestige to a purely personal view that could give young writers the wrong idea.
- While Mr. Sheehan's position is all too common among the younger school of reporters, it is offensively false and indeed repugnant to many veterans in the business.
- The third point is that relations between the press and the military are already sufficiently strained and Mr. Sheehan's view of how the journalist should stand may only make them worse.

So to make my own position clear from the start I will tell of an argument some years ago with another correspondent, Maleolm Browne, the forum being at Michigan State University.

"My job," said Mr. Browne, "is to get something on government or get something on the services."

I answered: "I call that monstrous, You are not Pinkerton, Paul Pry or Hawkshaw. Your job is to seek out that which is new, interesting and needing to be told, then write it to the best of your ability. If it happens to be a scandal concerning your best friend, then he has to suffer along."

Toward the end of his disquisition Mr. Sheehan said: "A journalist ought to be fair...[He] should make judgments about the meaning of the information he has acquired."

Both points are sound so far as they go, though "ought" is a weak word when fairness is a positive requirement. Then I would ask, what is the basis for all of this judgment? A writer who has been a writer only is not a Solomon or a Univae by reason of his possession of that one talent. Even if he has labored long as a foreign and war correspondent, he has not felt the wind of the world in his face. Writing never of itself gives one accurate depth perception, analytical keenness, and the authority to discriminate between opinion and fact. It is essentially on-the-job training in the production of passable copy, and that's all.

Yet, I heartily agree with Mr. Sheehan where he says that all of this talk about objectivity in reporting is bosh. No writer, no speaker, may denature himself when he mills out words. What he is like as a person, the sum total of his ideas and emotions must condition in some degree his work. It should follow then that the broader has been his experience, the more varied the fields in which he has fruitfully served, the better qualified he should become to distinguish between soundness in information and its opposite.

Still, it does not work that way in journalism. A man is sent fresh to the Pentagon and by virtue of his assignment he becomes an instant expert on matters military, though he may never previously have touched base with the armed force in his life.

I next suggest that if he adopts the position that Mr. Sheehan thinks essential to sound reportorial enterprise, he will never emerge from the eocoon. The fundamental technic of the newsman has always been, and will ever be, the cultivation of sources. It is never done through standoff suspiciousness. There must be warmth if there is ever to develop mutual trust, and without that lubricant, communication either dies or stalls at the superficial stage. To imply that such a relationship must in some degree bind the reporter and hence contaminate the pure waters of the press is errant nonsense. The late Mark S. Watson of the Baltimore Sun was beyond doubt the ablest, most fluent, and best-informed correspondent ever seated in the Pentagon press room, His integrity was profoundly respected by his every colleague, and the military were devoted to him.

As for the extolled virtue of a protagonist relationship, what is the object of the contention? Surely the reporter does not cast himself as a gladiator commissioned to hack away at Government or the military and if need be, bring either down. It is much too heroic a mold, for those are frightfully long odds. He may win a few but he will also lose aplenty. If, on the other hand, the argnment goes that he is more likely to come up with sensational pieces, wholly verifiable or otherwise, I would doubt it, though I am reminded of an old jingle, written, I believe, by A.P. Herbert:

You cannot change, nor bribe, nor twist, The sturdy British journalist; But then on seeing what he'll do Unbribed, there's no occasion to. In the headlong rush of a reportorial mob into Cambodia I year ago, three in particular among the reenforced platoon that was captured are worth remembering. When finally released by the Viet Cong, the lady, speaking for the trio, said that they could not think of themselves as being in an adversary relationship to their captors.

But if it was not that, then they had to be friendlies.

One of the gentleman on being made prisoner had identified himself as an "international correspondent."

There is no such animal and he was in fact an American.

All three were accredited to the U.S. military. Yet they believed that, owing to their status, they were entitled to have it both ways. Their own services should give them full trust of information while winking at the fact that they were quite willing to play footsie with the enemy.

Such presumption, I believe, is at dead center of the cause of friction, or call it increasingly distant relationship, between the military and the press. To be blunt about it, the military does not trust the average correspondent and it has full reason for mistrust, so long as the correspondent thinks of himself as a protagonist. After all, this is his country and his role as reporter does not make him any less the citizen with a personal responsibility for its keeping.

In Korea while the 8th Army was in retreat and had not yet closed on Scoul, this being around December 1950, one service wire writer put in the clear our order of battle in the north.

At the same time the press gallery in Seoul, except for a few veteran correspondents (and none had been near the fight), was writing that the battle had been lost along the Chongehon River because the Army had bugged out, or quit the fight, which was totally false.

It became my task, at the request of Gen. Walton Walker, to confront the gentlemen and tell them what they were doing. It was put to them in ahout the following terms: "You are Americans first and reporters second. Your country and this Army are in deep trouble. Freedom of the press gives you no license to fabricate stories and lie to the American public about what is happening. I can't direct you to straighten up and fly right but I can say to you that

Thereafter we had no real trouble, though I recommended that censorship be imposed as quickly as possible.

you befoul yourselves by flonting the

ethics of our trade."

I have had a many-sided and longsuffering experience with the dilettantism and reckless arrogance of American correspondents in the field, There are occasional exceptions, and not all of them are veterans in the true sense. One of the best in Vietnam was a youngster representing the college press. It is only, however, when the correspondent wears the high, stiff collar of the Fourth Estate, as if so doing relieves him of personal responsibility as an American citizen, that he puts an acute pain in my neck.

Nuts to that! If there is not to be machinelike objectivity, then in its place there must be accountability by the whole person. The reporter is not an especially privileged individual. He is not made a stateless person by his calling. For him to think of himself as a protagonist in his relations with Government or the Army or Navy is less a conceit than an illnsion. Those are but institutional names and this is a world of people. Does he therefore think of himself as a protagonist in all human relationships in life, for example, those with his wife? It would be one hell of a marriage.

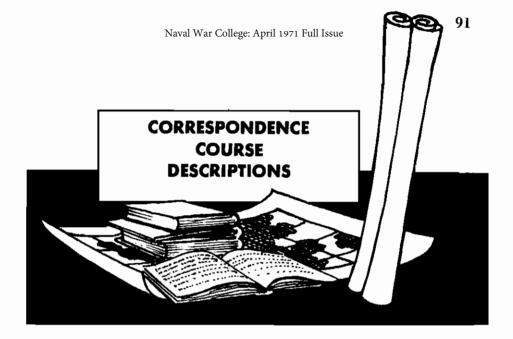
So I end with my vision of the truly qualified American news hawk and the image goes something like this:

A person who, having sufficient knowlege of our past, would walk fairly constantly with the thought that it puts him in debt and he has an obligation to its future.

He would walk carefully and proudly, and also a bit humbly lest he default that obligation.

He would walk, saying to himself: "I am first of all an American and therefore whatever I do, however small, has some importance."

Given that kind of reporter with whom to deal, the military open their doors, minds and hearts.



In the "Challenge!" of the Naval War College Review, October 1970 issue, the President of the Naval War College foretold of future changes to Naval War College correspondence courses. These changes will occur in several stages. The first of these is described below.

Announcement

The total correspondence course offering of the Naval War College has been converted from nine "courses" with 32 available "installments" to nine "subject areas" with 32 available "courses." Each of the new courses is a single-installment study. Each may be undertaken independently except where prerequisites are indicated. Each course completion will be recognized by a letter to the student via his command, copy to his headquarters record. Reservists' completions will continue to be sent to their services' recording activities.

Officers who are working towards a Naval War College diploma will find no change in total requirements under this stage of revision, but will be more free to vary the sequence of courses. Subject matter content is the same as in the 1970 courses, so repetition will not give duplicate retirement points.

Officers may start or continue their studies with any course that they desire except where prerequisites apply. This provision is expected to become more responsive to each officer's professional needs.

Over the next several years, after considerable reorganization of subject matter content and student work requirements, further changes will be announced.

The new standard information and descriptions follow.

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U.S. NAVAL WAR COLLEGE Newport, R.I. 02840

CORRESPONDENCE COURSE INFORMATION 1971

The President of the Naval War College extends the benefits of the College by offering appropriate correspondence courses. These courses are constantly reviewed and updated to keep them in consonance with the resident courses.

ELIGIBILITY AND APPLICATIONS. Naval War College correspondence courses are available to all officers of the U.S. military services of the grade of Navy licutenant (or equivalent) and above in active service or in the Inactive Reserve. Selected Government employees of the grade GS-10 (or equivalent) and above may also enroll. The waiver of rank or grade may be granted for qualified individuals in lower grades. Applications from active duty officers should be by letter via Commanding Officer or by the application card provided in the Naval War College Review and in brochures. Applications from inactive duty naval officers should be by letter via Commandant, Naval District, or by letter or card via command maintaining record.

Request for more information may be sent to:

Director, Correspondence School Naval War College Newport, R.I. 02840

LEVEL OF STUDY. Courses are on a graduate level, are subjective in nature in that there are no "school solutions" to the exercises and problems posed, and require creative work. Students who enroll should plan to spend at least five hours a week in study and to press forward consistently, to sustain the benefit of each study session.

The description of subject areas and courses indicates the estimated study hours in parenthesis. Naval Reserve retirement point evaluations are shown and are certified to recording activities of the Navy and other services. Satisfactory completion of each course is creditable.

The Naval War College Correspondence Course Program Design—and Awards. The program is designed so that a student may select the single courses of particular interest to him or may work towards a SUBJECT AREA certificate or a diploma.

Enrollment is in one course at a time, in any case. Students who indicate the *intent* to take an entire SUBJECT AREA will receive material for subsequent courses in that AREA with less delay between courses. Students may change their intentions, of course. They must request to be enrolled in any subsequent course before enrollment will become effective.

Prerequisites are required ouly when experience has proven that an earlier course is necessary foundation for another or when the later course depends upon the student's own work developed in the previous course. Prerequisites may be waived if a student submits information on his qualifications.

Order of listing SUBJECT AREAS is not indicative of a required or even a recommended sequence.

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Order of courses within a SUBJECT AREA is a logical sequence and is recommended, but is not required unless a prerequisite is indicated.

Letters of completion are issued upon successful completion of each course; copies are sent to the Chief of Naval Personnel or other appropriate authority for the student's selection jacket.

Certificates are issued upon successful completion of all courses in a SUBJECT AREA.

Diplomas are awarded to those students completing selected groups of SUBJECT AREAS which closely parallel the levels of studies offered in the Naval War College resident programs of Naval Command and Staff and Naval Warfare, Requirements are:

The Correspondence Course of Naval Command and Staff. Graduation from this program indicates successful completion (no waivers) of all required courses in five SUBJECT AREAS: National and International Security Organization, Military Planning, Naval Operations, Command Logistics, and Military Management.

The Correspondence Course of Naval Warfare. Graduation from this program indicates successful completion of the Correspondence Course of Naval Command and Staff plus all courses (no waivers) in the four additional SUBJECT AREAS: International Relations, Counterinsurgency, International Law, and Strategic Planning.

COURSE DESCRIPTIONS 1971

The following subject areas and single-installment courses are offered:

Subject Area 14. NATIONAL AND INTERNATIONAL SECURITY ORGANIZATION. 2 Courses. 16 Points each. (48 Study Hours ea.)

Course 14-1—National Security Organization. Provides an understanding of our national security structure with special emphasis on the problems of the Seventies. Components studied include: the Presidency; his Executive Office; Congress; Secretaries of Defense and State; Military Departments; Joint Chiefs of Staff; Unified, Specified, and Joint Commands.

Course 14-2—International Security Organization. Provides a further understanding of our national security structure with respect to the United Nations, Collective Defense Treaties, and Foreign Assistance. Emphasis is placed upon NATO and its Combined Commands, SEATO, the concept of alliances in general, and changes that are likely during the next decade. (Prerequisite: 14-1, only until course revision about 6/71.)

Subject Area 15. COMMAND LOGISTICS. 3 Courses. 15 Points each. (45 Study Hours ea.)

Course 15-1-Basic Logistics. Introduces the major Armed Forces logistics organizations, and examines logistics discipline and interrelations of strategy, tactics and logistics.

Conrse 15-2-Logistic Planning. Provides logistic planning procedures and tools; and requires calculation of commodity requirements.

Course 15-3—Operational Logistics Problem. Poses an operational problem situation designed to develop the student's ability to apply logistic considerations in planning, utilizing the military planning process. (Prerequisite: 15-2)

Subject Area 16. INTERNATIONAL LAW. 6 Courses. 21 Points each. (63 Study Hours ea.)

Course 16-1—Foundations of International Law. Provides a general background in the basic concepts of international law. Includes the sources and nature of international law and the obligations of a U.S. Naval officer toward international law, problems of statehood, belligerency, insurgency, recognition, functions of diplomatic agents, dispute settlement and international agreements.

Conrse 16-2—Jurisdictional Concepts in International Law. Focuses on the determination, acquisition and exercise of jurisdiction over persons, ships, territory, marginal seas and inland waters, and air and space in time of peace. Includes the consideration of Status of Forces situations and the exercise of jurisdiction over nonnationals. (Prerequisite 16-1)

Course 16-3—Rights and Duties of States Beyond the Limits of National Territory. Considers the jurisdictional rights of a state outside the limits of national territory, the abuse of territory (Nuclear Test Ban Treaty) and the use of force (self-help, reprisals, intervention and invitation). (Prerequisite: 16-1)

Conrse 16-4—Principles of the Laws of War and the Rules of Land Warfare. Introduces the basic principles underlying the laws of war (war crimes, reprisals, and prohibited weapons and acts), the rules of land warfare (military necessity and reasonable proportionality, actions within occupied territory and permissible weapons and tactics) and international humanitarian conventions. (Prerequisite: 16-1)

Course 16-5—Rules of Naval and Air Warfare. Undertakes a study of the basic principles of naval warfare (weapons and tactics, blockade and control of shipping) and the basic principles of air warfare (medical aircraft, acrial blockade and acrial bombardment). (Prerequisite: 16-1)

Course 16-6—Neutrality and the Termination of War. Examines the rights and duties of neutral states, warships in neutral ports, overflight of neutral territory, interference with neutral commerce and problems incident to the termination of war and peace treaties. (Prerequisite: 16-1)

Subject Area 17. INTERNATIONAL RELATIONS, 6 Courses, 18 Points each, (54 Study Hours ea.)

Course 17-1—Basic Principles and Concepts of International Relations. Analyzes the characteristics of a nation and the nation-state system including consideration of sovereignty, national interests, national power and diplomacy.

Course 17-2—Relationships of National Power and Interests. Studies the dynamic forces between nations including international economies, armaments and balance of power systems. Considers the problems of international trade and finance, war and arms control. (Prerequisite: 17-1)

Course 17-3—World Order. Considers the nature and functions of regional and international organization; the role of law, including the Soviet and Western views, in relations among nations. Examines the legal aspects of several recent international incidents. (Prerequisite: 17-1)

Course 17-4—Comparative Foreign Policy I (Major Western Powers). Studies foreign policy structures and processes of Britain, Germany, France and the United States. Examines principal policy objectives of these nations and the issues and goals of Japan's foreign policy. (Prerequisite: 17-1)

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Course 17-5—Comparative Foreign Policy II (Soviet and Chinese). Considers the role of communist ideology on foreign policies of the Soviet Union and People's Republic of China; examines the nature and functions of foreign aid, and alliance systems such as the Warsaw Pact and NATO. (Prerequisite: 17-1)

Course 17-6-Politics of the Third World and U.S. Foreign Policy. Studies the political, social and economic aspects of developing nations; internal and external forces affecting the Middle East; and long-term goals and challenges to U.S. foreign policy. (Prerequisite: 17-1)

Subject Area 18. MILITARY PLANNING. 2 Courses. 18 Points each. (54 Study Hours ea.)

Course 18-1—Basic Military Planning. Studies the systematic techniques of logical analysis as applied to military planning and the development of a Commanders Estimate of the Situation based on a given problem situation.

Course 18-2—The Staff Study and the Naval Directive. Studies the Naval Staff, its organization and functions; requires preparation of a Staff Study and a Development of the Plan based on the previously completed Commanders Estimate in Course 18-1. (Prerequisite: 18-1)

Subject Area 19. NAVAL OPERATIONS. 4 Courses offered. Only 2 required for certificate or diploma. 24 Points each. (72 Study Hours ea.) (For either a certificate in the subject area of Naval Operations or a diploma, a combination of 19-1 and 19-2, alone, may not be selected.)

Course 19-1—Submarine Operations. Studies the concepts, doctrine and characteristics of submarine operations and the development of an antishipping plan and directive utilizing the Military Planning Process. (Prerequisites: 18-1 and 18-2)

Course 19-2—Antisubmarine Operations. Studies the concepts, doctrine and characteristics of ASW operations and the development of a plan and directive utilizing the Military Planning Process. (Prerequisites: 18-1 and 18-2)

Course 19-3—Attack Carrier Striking Force Operations. Studies the concepts, doctrine and characteristics of ACSF operations and the development of a plan and directive utilizing the Military Planning Process. (Prerequisites: 18-1 and 18-2)

Course 19-4—Amphibions Operations. Studies the concepts, doctrine and characteristics of amphibious operations and the development of a plan and directive utilizing the Military Planning Process. (Prerequisites: 18-1 and 18-2)

Subject Area 20. STRATEGIC PLANNING, 2 Courses, 18 Points each, (54 Study Hours ea.)

Course 20-1—National Strategy. Examines military, economic, social, scientific, and political factors involved in the development of a national strategy paper at the Executive level. (Prerequisites: 14-1, 17-1, and any one of the other courses in Subject Area 17)

Course 20-2—Military Strategy. Studies the factors and procedures for joint strategic planning at the JCS level and the considerations vested in the formulation of a military strategy, utilizing the student-prepared National Strategy Paper in Course 20-1. (Prerequisite: 20-1)

Subject Area 21. COUNTERINSURGENCY, 4 Courses, 16 Points each. (48 Study Hours ea.)

Course 21-1—Elements and Aspects of Insurgency and Counterinsurgency. Provides a historical evolution of insurgencies illustrating basic causes for and tactics used to combat insurgencies.

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Course 21-2—Communist Insurgency Methods. Studies the development of communist ideology and doctrines with respect to wars of national liberation and the developing world.

Course 21-3—U.S. Roles in Modernizing Traditional Societies. Gives background of U.S. national objectives relating to internal defense and the U.S. foreign policy in the 1970's as they relate to the developing nations.

Course 21-4—U.S. Planning to Counter a Hypothetical Insurgency. Outlines the U.S. national security mechanism, concentrating on its role in comhating insurgencies; casts the student in various roles for planning and implementing the developed hypothetical plan. (Prerequisites: 21-2 and 21-3)

Subject Area 22. MILITARY MANAGEMENT. 3 Courses. 20 Points each. (60 Study Hours ea.)

Course 22-1—Foundations of Management. Studies basic management theories, principles, processes, and concepts in military and modern business enterprise environments. Highlights the relationship of management to similar fields of activity and study, and compares the application of sound management through specific examples of military and business enterprise procedures.

Course 22-2—Explorations in Management. Explores the scientific and economic tools available to the military manager. Through specific applications, establishes logical uses of the computer and scientific aids to defense problems for national security.

Course 22-3—Applications of Military Management. Reviews the interdependence between the Department of Defense's decision making process and the Planning-Programming-Budgeting and Resources Management Systems. Considers resource allocations in the light of present day and future requirements and problems, including personnel problems.

CORRESPONDENCE COURSE DESCRIPTIONS Naval War College: April 1971 Full Issue

NAVAL WAR COLLEGE CORRESPONDENCE COURSES ORGANIZED INTO SUBJECT AREAS

NWC #	SUBJECT AREAS Courses	Prerequisites (Note 1)	Study Hours	Reserve Points
14	NATIONAL AND INTERNATIONAL SECURITY ORGANIZATION			
14-1	National Security Organization		48	16
14-2	International Security Organization	14-1 (Nate 2)	48	16
15	COMMAND LOGISTICS	(Note 2)		
15-1	Basic Logistics		45	15
15.2	Logistic Planning		45	15
16-3	Operational Logistics Problem	15-2	45	15
16	INTERNATIONAL LAW			
16-1	Foundations of International Lew		63	21
16-2	Jurisdictionel Concepts in International Law	16-1	63	21
16-3	Rights and Duties of States beyond the Limits of National Territory	16-1	63	21
16.4	Principles of the Laws of War and the Rules of Lend Warfare	16-1	63	21
16-5	Rules of Naval and Air Warfare	16-1	63	21
16-6	Neutrality and the Termination of War	16-1	63	21
17	INTERNATIONAL RELATIONS			
17-1	Basic Principles and Concepts of International Relations		54	18
17-2	Relationships of National Power and Interests	17-1	54	18
17-3	World Order	17-1 17-1	54 54	18 18
17.4 17.Б	Comparative Foreign Policy 1 (Major Western Powers)	17-1	54 54	18
17-6	Comparative Foreign Policy II (Soviet and Chinese) Politics of the Third World and U.S. Foreign Policy	17-1	54	18
17.0	romites of the finite world and O.S. Followin Policy	17-1	34	10
18	MILITARY PLANNING			
18-1	Besic Military Planning		54	18
18-2	The Staff Study and the Naval Directive	18-1	Б4	18
19	NAVAL OPERATIONS (Only two courses needed for Subject Area cred			
19-1	Submarine Operations	Select	72	24
19.2	Antisubmarine Operations] 2	72	24
19-3	Attack Carrier Striking Force Operations	but not	72	24
19-4	Amphibious Operations	#1 & #2	72	24
20	STRATEGIC PLANNING	(Note 3)		
20-1	National Strategy	20.4	54	18
20-2	Military Strategy	20-1	54	18
21	COUNTERINSURGENCY			
21-1	Elements and Aspects of Insurgency and Counterinsurgency		48	16
21-2 21-3	Communist Insurgency Methods		48 48	16 16
21-3	U.S. Roles in Modernizing Traditional Societies	21-2 8 3	48 48	16
21-4	U.S. Planning to Counter a Hypothetical Insurgency	21-2013	40	10
22	MILITARY MANAGEMENT		60	20
22-1	Foundations of Management		60 60	20 20
22-2 22-3	Explorations in Management		60	20
22-3	Applications of Military Management		00	20

NOTES: 1 - Prerequisites may be waived on submission of specific experience or aducation.

^{2 -} Prerequisite only until course revision, about 6/71.
3 - Prerequisites are 14-1, 17-1, and one other course in Subject Area 17.

