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February 7, 1974

MEMORANDUM FOR: REAR ADMIRAL HARRY TRAIN
SUBJECT: Comments on the US/Soviet
Navy Net Assessment

Let me begin by saying that, for a number of reasons, the ability to compare naval forces and depict the worldwide naval balance has become exceedingly important. The Principal reason for saying this is the role the naval balance plays in the conceptual framework Schlesinger has for thinking about U.S. defense forces in worldwide context. He prefers to think in terms of key balances. The three principal balances of interest are the strategic balance, the balance of forces in Central Europe, and the naval balance. The latter is, in a way, a catchall, including strategic mobility and the capability to project military power. There may be residual issues that really don't fit in the naval balance, but nevertheless you can see that it plays a crucial role in the Secretary's view of where we stand with respect to our adversaries.

Given the importance of the naval balance to the Secretary's thinking, I would like to see the Navy undertake a long term, vigorous effort to develop and improve means of comparing naval forces. The net assessment you have prepared can be a convenient point of departure. I am in sympathy with its aim, and believe that it puts forth an essentially correct message. On the other hand, the measures and comparisons used are still rather crude. They could easily be attacked and partially discredited by anyone with a moderate degree of sophistication in such matters. I also have some questions relating to the assumptions on which many major analyses of naval problems are based, and concerning the logic of U.S. and Soviet mission descriptions. I have some detailed comments on these issues which follow. After you have had a chance to

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read this memorandum, I would like to get together with you to talk over next moves. I also plan to talk with Admiral Zumwalt on this subject fairly soon.

SPECIFIC COMMENTS

Mission Definitions

I take the view that the missions ascribed to the Navy are not yet well defined. For example, discussion of "sea control" are usually vague as to what seas are being controlled and for what purpose. In a war with the Soviet Union we could not hope, at least at first, to exert control in any meaningful sense over the Barents Sea, the Eastern Greenland and Norwegian Seas, or the Western Sea of Japan. It would probably be a mistake to try, or to buy forces for such a mission. On the other hand there are some sea control missions that most would agree are vital to our national objectives, and upon which we should focus in setting force levels. These include:

- a. Sea Lane Defense
- b. Projection of power ashore in support of U.S. commitments
- c. Protection of projection forces so employed
- d. Denial of the Sea to enemy naval forces and commerce

I believe the Navy does base its force requirements statements on just such reasonable missions. On the other hand, the annual exercises in which the NATO task force dashes off into the Norwegian Sea to launch nuclear strikes against the USSR may reflect that a lot of naval officers, U.S. and Allied, think we could or must actually do in a war. What I am suggesting is that because of the long period of time in which the U.S. Navy had essentially no opposition may have led to an all-encompassing idea of what "sea control" is or should mean. There are limits on our sea control now; the problem is to draw the boundaries in some appropriate way.

Another point I would like to make about sea control is that it need not be done exclusively with naval forces. Some measure of protection for naval forces in the Atlantic

may come from Air Force fighters based in Iceland and Norway intercepting and destroying SNA and LRA aircraft before they can get within striking distance of our ships. This should be taken into account in force comparisons, as should, in appropriate circumstances, the forces of Allies. There are other examples of the likely use of land based air to assist in sea control.

On page two of the main (white) paper, there is a discussion of the Navy's role in a war with the USSR in Europe. It asserts the need to provide support shipping to our forces to allow them to fight as long with conventional weapons as the Soviets can. While I generally agree, I would point out that present intelligence on Soviet logistic support for Europe suggests that they are planning a very short war (a few weeks). This suggests that if we really need a resupply capability for that war, that airlift would play an important, perhaps dominant role. I know there are a lot of problems with the airlift solution also. But even for a 90 day war, which is the upper bound, at least for planning, would the shipping we could move and deliver make much of a difference? Do we have any studies of how much it would be, net of losses, and how it would fit in with the land war? What about still longer wars?

I believe the War at Sea needs careful thought. How could such a war get started, or, once started, sustain itself without spreading to the land? How could such a conflict be terminated? What would either side deem to count as winning? Could either side tolerate the other winning? Suppose the Soviet Union "won" in the sense that all our CVs were destroyed and our remaining ships were not able to venture out to sea beyond land based tactical air cover? Would we not then be compelled to withdraw our troops from Europe, so that in effect we would have lost a NATO war? Could the Soviets merely leave it at that, knowing our industrial potential, and having the Japanese in WWII as an example?

Is War-at-Sea an artifact of the modes of analysis of naval warfare practiced in the 1960s? That analysis tended to concentrate on purely naval response to naval threats (e.g., no bombing of port facilities allowed). The War-at-Sea framework maximizes the threat, while at the same time

throwing the entire burden of response on our Navy. One of the less obvious problems with this is that it tends to distort our real requirements. In the War-at-Sea we tend to dominate in fleet engagements, but take losses to their submarines, indicating a need to reallocate to ASW. In the sorts of scenarios now believed to be politically plausible, such as short NATO war, shoot-out in the Eastern Mediterranean, or limited war in the Persian Gulf region, the kind of ASW we would buy for the War-at-Sea won't help much, and what we really need are more numerous and flexible offensive forces. I understand that a major Navy study--the ASW Force Level Study--done in 1968, used a methodology which involved making trade-offs between defending and defended forces for optimum mission performance. This study, I believe, reached the conclusion that it would be better to buy more of the defended forces (carriers, amphibians, etc.) than to buy more ASW forces.

I agree that Soviet Naval activity in recent years adds up to impressive evidence that the Soviets now consider projection and presence as missions for their Navy. Of course, they probably do not use the same phraseology, but functionally I think it adds up to the same thing. Producing certain kinds of ships and maintaining deployed forces make the point clearly enough. I do not find this very surprising. In modern times there have been no world powers that were not also naval powers. The Soviets can see this as easily as we can.

On the other hand, I am not sure that I agree that deducing the missions of the Soviet Navy is tantamount to deducing their intentions. If this means that they can be expected to behave in accordance with the demands of the missions, the statement is correct, but doesn't add much. I doubt that intentions in that sense are very ephemeral. But we normally associate the word "intentions" with some immediate action already decided upon, not with long term goals or overall objectives. Thus I think the point the assessment is making might be better put: "...deducing the missions of the Soviet Navy is tantamount to deducing the higher order

goals which the Soviets wish their Navy to help them achieve." What they intend to do, from time to time, in carrying out their missions, is not deducible from the missions themselves without additional information.^{1/}

Comparative Measures

I am still somewhat dubious about the use of figures 1 and 3 even though I like them. Ratios are always tricky, and those figures compare two ratios. Perhaps displaying absolute force size by each point would make the graphs more informative. Also the accompanying description could be designed to make clear (as your briefing to the Secretary did) that the large cross gives the overall picture, while the dots show how components are changing. Another device might be to display a single ship type on each of several figures, but show changes in average age over time for both the U.S. and USSR.

Turning to the other comparative measures, figures 4 and 5, showing offensive platforms, while clear enough as to what is being displayed, they are not very satisfying. There is the problem of comparing our aircraft carriers to their missile ships (or worse, ASM carrying Badgers) on

^{1/} A lot of the confusion and divergence of opinion concerning "capabilities" and "intentions" arises from imprecise use of the words. There is a tendency to think of capabilities as "hard"; e.g., numbers of ships and missiles, in a word, hardware. Intentions on the other hand are "soft"--subjective phenomena, changeable at the whim of leaders. But there are soft features of capabilities, including uncertainty as to reliability and effectiveness, but more importantly bureaucratic and organizational constraints that limit real capabilities. Similarly there are hard aspects of intentions, including the traditional strategic goals and objectives of the leadership groups that command the forces in question. Those who argue that forces should be sized depending on the capabilities of adversaries generally go on to attribute capabilities the adversaries don't have, such as perfect intelligence, allowing devastating exploitation of one's own weaknesses, or perfectly unified leadership. On the other hand, intentions are an equally poor criterion, for a number of reasons, though some intentions are more permanent and lasting than hardware capabilities.

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a one-for-one basis. Also, why are not submarines with anti-ship torpedoes counted? Then there is the dramatic reversal caused simply by the deployment of HARPOON. This raises some questions:


- If it is that easy, why didn't we do it before?
- Are the Soviets going to stand still and let this happen to them?
- Is HARPOON really that good? Aren't we placing a lot of reliance on a single weapon?

The figure showing offensive systems doesn't really answer the objections raised to the offensive platforms measure. In the near term, it equates our carrier aircraft, equipped at best with Walleye II, with Soviet second generation SSMS and ASMs. At the end of the period it does the same for our small, first-generation HARPOON. Once again, no submarines with torpedoes are included.

I do not really know what kind of measures to suggest as replacements for those I have just criticized. Perhaps the offensive characteristics of the U.S. and Soviet navies are too disparate to be so simply characterized. On the other hand, since what we are basically talking about is ordnance delivery capability, perhaps we could derive a series of curves showing ordnance delivery capability in tons against distance from the launching platforms on each side they might have somewhat peculiar shapes--sharp discontinuities reflecting the limits of missile range, gentler slopes representing range/payload trades for carrier aircraft. It might be worth trying, to see how the curves would look, and possibly to suggest to the analysts other ways to make comparisons. One can see that even if we could do such curves we might wish to go further, and characterize such things as the effect of missile speed and aircraft evasiveness on the probability to placing the payload on the target.

On the measures of defensive capability, I have more or less the same reservations I have about the offensive measures. The one-to-one comparison of platforms does not inspire confidence. Is there some way we can characterize

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the forces on both sides as generating a continuous spectrum of capability, perhaps, once again, tons of payload at a given range from the launching platform? It seems to me if we could do this and work in refinements we might get to a stage in which the offensive and defensive forces could be compared against each other. It would be illuminating to try, in any case.

In the case of ASW forces, figures 10 and 14, I am sure the simple comparison of platforms very much understates our advantage, based on qualitative differences. Perhaps it might be feasible to weight each platform by some figure of merit, such as nominal P_k in some standard situation. Further refinements could aim at defining standard situations characteristic of the rough average of situations actually to be expected in a series of encounters with the opposing forces in a campaign.

More appropriate measures of offensive and defensive forces might remove the need for figures 12 and 13. Still, I am curious why only CVs and SAM and SSM ships were considered as targets. Surely the Soviets would wish to allocate some effort to destroying our replenishment and amphibious forces.

I think that we should make a general effort to make the measures of force size and capability compatible and comparable. At the moment the figures in the assessment show only relative trends. It is true that our Navy has declined in size, and perhaps in power, relative to the Soviet Navy. But there is not much to support a conclusion that the Soviets have moved up to parity, or even half-parity. We don't know how to place the U.S. and Soviet curves on an absolute scale. We need to know where we stand in absolute terms. I am not sure that equality or parity with the Soviet Navy will let us meet national objectives. The demands on our Navy are greater than those placed on the Soviet Navy. The Soviets have the easier role of spoilers, and they have designed their present forces to that role. To inform study and discussion of what to do about this, we should know where we stand, what the trends are, what particular areas of advantage or disadvantage exist, and so on.





Analytical War Gaming Results


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The results for major analytical studies or war games are different from the comparative measures by which we judge the naval balance, but are useful in judging the appropriateness of our measures, and in illuminating specific issues. I am interested in such studies, and would like to encourage them and offer comments as appropriate. On the other hand I am somewhat skeptical about the assumptions on which such studies have been based. For example, the contributions or potential contributions of other services, or of the forces of allies, are usually ignored. But surely, if Soviet Long Range and Naval Aviation is a threat to our ships, we should be able to call on U.S. and allied land based tactical air forces to bear some part of the burden of fighting them. What I would like to see is this kind of more realistic approach taken in major analyses when they are done in the future. That would give us some idea what the real contributions of other forces might be.

FURTHER COMMENTS

It may be premature to say that carrying out the planned programs will solve our problems. Indeed, while I do not agree with the somewhat pessimistic tone of many statements one hears about where we stand, I tend to think that the optimism of depending on HARPOON to make a dramatic difference is equally unwarranted and potentially very misleading. It is an important point, of course, that we need such a weapon, that there is an enormous difference between having some ASCM and having none at all. On the other hand can we rest with HARPOON? One weapon is not going to solve our problems. We should be looking at families of weapons of all sorts. This is one area where our lead in technological areas such as computers, electro-optics and lasers probably can pay off in large increases in overall force capability.

I am curious about the point made on the last page of the assessment on the effect that the Soviets can outbuild us. If one takes just ship tonnage, this does not appear to be so. 1968-1972 was a tough period for the U.S. Navy, but nevertheless during it we produced three times the tonnage of naval combatants and auxiliaries as the Soviets.



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(1,513,000 tons to 511,000 tons--includes attack submarines, major and minor surface combatants, amphibious ships and major auxiliaries.) I am surprised to learn that the USSR has a superior shipbuilding capacity. I think it would be useful to talk about the basis of this judgment, and the more general idea that the Soviets have some sort of advantage in producing naval ships.

In summary, I am in sympathy with the idea behind the naval net assessment, and its general conclusions. I believe you should take it as a point of departure in producing what may in time, become a comprehensive net assessment of the naval balance. Given the explicitly expressed interest of the President and the Secretary of Defense, I think the effort warrants priority attention from both of us.

A.W. Marshall
Director, Net Assessment

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