

**Mr. Seth Cropsey**  
**Presentation**  
**IFPA-Fletcher Conference**

**MR. SETH CROPSEY:** Thank you, sir. What happens to nations that forget something as basic as their geography, in particular the source of their maritime power, the maritime source of their power? What I'm asking in my remarks today, what is the cost of strategic amnesia? And the question is not theoretical. Notwithstanding several efforts to stabilize the diminishing size of the United States Navy, the current fleet of 274 combat ships is the same size as it was on the eve of World War I. If shipbuilding can be sustained at seven vessels per year, we'll eventually possess a fleet whose numbers equal those achieved just after the Russo-Japanese War. The presidential debates that began almost half a year ago have considered expensive haircuts and federal support for the renovation of Soldier Field in Chicago. But the fact that the U.S. Navy today is less than half the size it was during the Reagan Administration continues to escape serious, sustained attention at the national level.

The answer that history gives to this question about strategic forgetfulness is not encouraging. As war with Sparta loomed, enlightened Athenian military leadership argued to abandon the city states small land possessions behind an impregnable land-facing wall and survive on seaborne commerce defended by a powerful fleet. It was a reasonable strategy that drew on Athens geography and unparalleled naval prowess. It also depended on the persuasive skills of its leader, Pericles. When he died, staying the course became impossible. Diverted by apparent good fortune and a handful of land campaigns, Athens challenged Sparta at her point of greatest strength, on land, and with disastrous results. Distinguished Athenian poets, philosophers and artists would continue to flourish, but Athens defeat in the Peloponnesian War finished her as a great power.

Venice suffered a similar fate. Surrounded by a lagoon on one side and the Adriatic on the other, she possessed Europe's most advanced and efficient shipbuilding industrial

base. Her galleys and freighters called at ports from northern Europe to the eastern shores of the Black Sea, supported by a string of wisely-placed and well-defended logistics bases. Anchored in sturdy Republican political institutions, her commercial empire, unlike anyone preceded her, was defended by the Mediterranean's strongest navy. Then, in the 15<sup>th</sup> century, Venice, as much to assure the safety of her vital supplies as to protect river trade routes to the west became involved in land warfare of the Italian city states. Unfortunately for Venice, this excursion to land-based politics and warfare occurred about the same time that the Ottoman Empire destroyed the Byzantine one, seizing Constantinople and taking bold, if often erratic steps, towards establishing itself as a peer naval competitor.

Venice's land forays away from the maritime source of her strength diverted her from protecting bases in the eastern Mediterranean. Her misplaced strategic focus also played a role in the city states failure to understand and respond to the changes in trade routes, ship design and international politics that came with the discovery of new routes between Europe and Asia. As with Athens, Venice would still produce great artists, but the Venetian republic's long run as the Mediterranean's preeminent naval power foundered once she forgot the maritime source of her strength.

Our Navy's current effort to craft a new maritime strategy is a healthy sign of national strategic life. Naval forces are flexible enough to adapt to the changes that continue to occur in the post-Cold War period. Simply put, strategizing has become more difficult because threats now come from both increasingly strong conventional powers and increasingly dangerous, unconventional sources. The problem is that we need to address both, yet they will not yield to the same tools.

I'm more concerned about the part of the strategic equation that does not change; the fact that the United States is still surrounded by oceans, that the future of the world's growing commerce depends on safe transit through the seas, and that one of the most fundamental measures of great international power remains the strength of the nation's naval service.

I hope that the Navy's effort to reach out and engage experts and ordinary citizens in a dialogue about strategy will draw useful attention to the Navy. All of us will be delighted if the actual finished maritime strategy document stirs a productive national debate. And, I believe the importance that the new maritime strategy attaches to cooperation with other naval powers and to being able to bring effective power to troubled spots more readily is sensible and will improve collective security.

These intelligent and well supported ideas require imagination and energy to implement. I have no doubt that these qualities are available in abundance. They also require platforms, weapons, sailors and necessary support and Marines. Here, I am worried because very few others seem to be. There are exceptions, of course. The redoubtable House Arms Services Committee chairman, Ike Skelton from Missouri, a state with no oceanic coast, said that current fleet numbers are, and this is his word, shocking. A retired Army General Barry McAfree, told Congress this past spring that, "The monthly burn rate of \$9 billion a month in Iraq and Afghanistan has caused us to inadequately fund the modernization of the U. S. Air Force and Navy. If this continues," he said, "we will be in terrible trouble in the coming decades when the People's Republic of China emerges as a global military power which we will then face in the Pacific with inadequate deterrence." Again, General McAfree's words.

Skelton and McAfree are exceptions. For the most part, their concerns are small print footnotes in the debate over Middle East policy. In even smaller print, notwithstanding its major importance, are the facts about the nation's shipbuilding industry. Diminished by corporate mergers, undisciplined by government policy, afflicted by layoffs and the departure of skilled workers for other, more reliable employment, shipbuilding costs continue a seemingly endless ascent as the incongruity grows between the industry and the nation's strategic dependence upon it.

Excluding its current effort to craft a new maritime strategy, the Navy's response has not always helped its cause. Amidst uncertainty in national attention deficit disorder, the best course would be clear, consistent, well articulated goals with fixed target numbers for

fleet size. The Navy has occasionally offered the opposite. Shifting targets for the size of the fleet, arguing for a fleet of indeterminate size between significantly different numbers, presenting reasonable, if arcane, justifications for why platforms matter less than capabilities. In all, confusing a public that is otherwise preoccupied with the immediate problems of Iraq and Afghanistan. J

Various intelligent ideas continue to be advanced to address the same problem, a shrinking fleet and a heedless nation. Surging ships, shifting fleets, cross decking crews, building on old alliances and crafting new ones, there must be dozens more innovations that can compensate for self initiated and gradual unilateral naval disarmament. But how far can fixes go? Spot welding can repair a ship, but it wouldn't make a very good one. At some point, the United States will face the choice of maintaining its naval supremacy or yielding it to others. I hope the people outside the naval community realize this before a decades-long interval needed to build and train forces occurs. Climbing back after falling off strategically is a feat unprecedented in history.

I will conclude. There is no inevitability to our enmity with China. But we strongly prejudice the case against a secure and balanced east Asia by encouraging a serious power vacuum in the form of our departure as the region's first naval power. Russian saber rattling can be dismissed today, but the Russians remain an ambitious people with a yearning for the international recognition they once enjoyed. India strives to build a naval force to control the ocean bearing its name, the one through which much of the world's oil is transported. It is merely a question of time until jihadists attempt to use the seas as a more effective alternative to the air routes whose assault has now been complicated by threatened nations measures.

The flexibility of powerful, wide-ranging naval forces offers protection for the civilized world against weapons of mass destruction in the hands of fanatics armed with long range missiles. In each case, a strong navy protects U.S. maritime interests which because of globalization are inseparable today from the broadest national security ones. The sum of these, and other interests today, and all the more so in the future amounts to this nation's

future as the world's great power. Our current naval trajectory leads away from this future. No good can come of it. The Navy's new maritime strategy will fail if it is, or is seen as, a scheme to avoid the consequences of national amnesia about our enduring strategic interests. The new maritime strategy will succeed if it sticks to the fact that while the uses to which we put naval forces are shifting, the nation's need for a large, powerful and responsive and ready Navy is as changeless as our geography.

If it is to remain a great power, the United States needs a fleet whose numerical size reflects this fact, and there should be no deflection from the target. The new maritime strategy should be mentioned by name whenever naval officials speak officially to Congress. Its detailed justification and the need for resources to implement it must be the constant and consistent theme of representation to the political leadership of both parties. Despite industries agglomeration and consequent reluctance to speak publicly on behalf of one service out of fear of offending customers in another, regular and insistent appeals must be made to individual members of the defense industry to do their part in drawing attention to the new maritime strategy and the nation's undiminished dependence on a strong Navy.

The nation's research institutes must be courted relentlessly. Useful conferences such as this one should take place around the country. The navy's renewed interest in maritime strategy acknowledges the power of ideas and the absent debate over this nation's maritime defense. This acknowledgement is a good thing. A debate must occur. The reason so many disputes are labeled as wars of ideas is because ideas determine action. Action is what is required. The ideas that must be replaced before the public are that the international strategic environment is changing, that the future of the United States as a great power depends on a large, healthy world class Navy, that this requires modernization and growth, the control of shipbuilding costs, the rejuvenation of the industry and the intellect to create and execute intelligent strategy.

The alternative, the one we know from history, naval decay, is well known. But no other great naval power ever held the position as beneficent world leader that we do. We may

wish to lay down this burden in the unforeseeable future. Doing so today is unthinkable.  
Thank you. [applause]

### **Q&A for the Entire Panel**

**GENERAL HOWARD:** I'd like you to do me a favor, for two reasons. I'd like to give General Amos a hand because I moved onto the next speaker before we could. And also, I think I've attended 10 or 11 of these conferences over a number of years, and sir, you gave the most succinct presentation that I have ever heard.

**GENERAL AMOS:** You told me to.

**GENERAL HOWARD:** So could you give him a round of applause?

**GENERAL AMOS:** I don't need a round of applause.

**GENERAL HOWARD:** And you might compliment the whole panel because they came in right at the right time, so give them a hand. [laughter] We have about a half hour for questions. However, General Amos has to leave in exactly 17 minutes. So if you do have questions particularly for the General, would you raise your hands and we'll entertain those first?

**GENERAL AMOS:** Oh, great, I'm out of here.

**GENERAL HOWARD:** Now, questions for the entire panel. I don't recognize names from here, I'm a little sight-impaired, but yes, ma'am?

**AUDIENCE:** Paula Gordon, Gordonhomeland.com. My question is about China. I was very pleased by the comments that both Mr. Work and Mr. Cropsey made. And I wonder if you would comment on Constantine Menges' book, *China: The Gathering Threat*, which was published after his death. I wonder if you are aware of that book, and if you

know of the analysis that he gave about the extraordinary threat that is posed by China, which many people in the west seem to be totally oblivious to?

**GENERAL AMOS:** I'm not familiar with the book.

**MR. WORK:** I'm not familiar with the book, but I've read a lot—I'm neither a panda slugger or a panda hugger, I'm a navalist. And from a historical perspective, great navies always look at rising navies. It's a little known fact that the United States had a war plan to fight against the British Royal Navy all the way up through 1924, after we had fought World War I with them. So China undoubtedly is building capabilities specifically designed to deter a United States intervention in case of a miscalculation over Taiwan.

You can pick up their equivalent of *Popular Science* and it says, "How to sink a U.S. aircraft carrier." I mean, they're very open about it. And the U.S. Navy needs to think hard all the time about how to do this threat. That's why I was so pleased with Admiral Williams' comments. The Navy really has paid for those first 18 ballistic missile shooters with MDA money, Missile Defense Agency money. The Navy really has not spent a lot of its own money on missile defense. That's going to be a problem in case of a break in against the Chinese Anti-Access Network.

So the fact that I think the Navy should think about this all the time does not mean that I think war is inevitable. I think as we put our hand across the table and try to work with them cooperatively, that's the way to go. But I do think it's prudent that we do think of the threat and how we might counter it.

**MR. CROUSEY:** ... (inaudible) with the spirit of that remark. The PLAN is showing all the correct signs of a naval organization that wants to have greater reach. Its senior officers are visiting more places, its ships are out and about the world. They're specific in their doctrine. Their ideas are directed to being able to achieve all weather night capability, extend their range, so on and so forth, building some impressive vessels. They say that they want to be a great power, and there's no reason that they shouldn't have

such an ambition. And their view of a navy is entirely consistent with that and with their geographic position and their commercial interests.

And I don't think people here, especially in this room, don't take that seriously. How well that's known outside of this room, outside the national security community, outside the Navy, I'm not sure. I am sure that that understanding needs to be there. Again, not because I think there's any inevitability to war with China or enmity or anything else like that, but they're serious and we ought to take them seriously. And by we, I mean not just the people here, but the people in the United States.

**GENERAL HOWARD:** Next question. Yes, sir, right here in the fourth row?

**AUDIENCE:** Robbie Harris here. Listening to the CNO speak this morning, Admiral Shuford this afternoon and various others, I don't think it's very well hidden that the conclusion of the new strategy is going to be that the U.S. Navy and Marine Corps, Coast Guard, would be more active in the future than it has been over the past decade. It will be more places doing different things than it has over the past decade and I would be surprised if those three services don't argue that we don't have enough ships either in the Navy or the Coast Guard or enough marines to do the things that are implied by this new strategy. Mr. Cropsey seems to agree with that.

On the other hand, I think I heard Bob Work say between, or among, the U.S. Navy, Marine Corps, Coast Guard, and the other democracies, that we have quite enough ships, thank you. Bob, would you like to comment on that?

**MR. WORK:** I believe we have enough ships if a threat, if an existential threat to world sea lanes came up. There's no question in my mind that all of the world democracies which generally have the next best navies would join with us to make sure—Because their stake in the globalization is as much as ours, if not more in some cases. Your point on the long war, however, I think is very good, and it all depends. I think the Marines, especially, are starting to look at, and General Amos, I'm sure, will correct me if I'm

wrong, instead of sending out MEUs, just as the General said this morning, you might send one ship with a special purpose MAGTF down south, or you might put a platoon on an LCS, or you might put a reinforced company on a specially modified MPF ship that is specialized for MPS.

The Marines, I think, are starting to think in terms of distributed operations of a lot smaller packets of forces. And you have enormous leverage when you do that, because the Marines are thinking much more of fighting this war in an indirect manner than in rotational, regimental combat teams. And I believe that is exactly right, and we may not have enough ships, but we need to test first before I would say, “Wow, we really have to increase.” I’d like to see the 55 LCSs, for sure.

**GENERAL HOWARD:** General, would you like to comment on that?

**GENERAL AMOS:** Well, I think it’s important to kind of put all this in the context of where you think the world’s going to go in the next 20 years. I do think that’s important, and that’s why the comment I made about access and influence, and really the maritime strategy talks, and it does a great job of talking about it from my perspective. It recognizes that the world out there probably in the next 20 years, 20 to 30 years, is going to be a world where the population—Let me throw this figure out. By 2035, over 70 percent of the world’s population will be less than 40 miles from the coastline. Now, we’ve said figures like 80 percent of the world’s population live within 300 nautical miles of the coastline. But in 2035, it’s postulated that over 70 percent of the world’s population is going to live within, let’s just say, less than 50 miles of the littorals.

I mean, that’s significant. So you think about what power’s going to be able to influence that? I will tell you parochially speaking, I think the naval services will be the best postured force. I mean, it’s not the—If the Army and Air Force were in here, they’d argue with me over this thing. But naval forces will have the capability to have that forward presence that Bob Work is talking about. And we need to change our thoughts on what that forward presence looks like. Right now, our paradigm is the carrier strike

group pulling off the coast on the Adriatic. It's a marine and naval expeditionary strike group made up of five ships, three amphibious ships and a couple of others. So that paradigm has got to change if you're going to be out there and you're going to influence and you're going to—You're actually going to try to prevent wars from happening instead of always reacting to wars.

It's going to take a shift of how we deploy ships. Right now, for instance, we take a marine expeditionary unit and we sail it off the west coast of the United States. And it goes on cruise for six months. It takes a little bit more than a month to get over into the Persian Gulf, it takes a month or better for it to come back. So what you have is you've got four months, at best, and probably more like 3 ½ months of useful time. And I'm not saying that it doesn't get used en route. But I am saying that we need to change the way we look at doing business if we're going to take the numbers of ships that we have, whether it be 313 or whether it grow to 400, and how we use those ships to influence the world in the future. And I don't think there's a force out there that's better than the naval force. And I agree, I think this is the time for our two services—Or actually our three services—To come together. I think it's right, and I think the climate's ripe within the Navy and the Marine Corps leadership and certainly I believe in the Coast Guard.

But I'll tell you, the issue is how do we get out there and influence the world? And you're going to do it a different way than we're doing it right now, and you're going to have to make the decisions that are important, and I think it is. And the natural friction point, by the way, is money. You know, we sit there and I worked with it this morning through the—You know, the Marine Corps investment piece of naval shipbuilding, and it's an investment and where are we going to spend our money, and what's the threat going to look like? I'll tell you, you could probably make a case with about five or six naval nuclear attack submarines, could probably contain the Chinese fleet pretty well, I would suspect. And I'm not saying we shouldn't build, we shouldn't react and we shouldn't be prepared to go to war with China. I am saying if you just take a look at the capabilities we've got, I would say that probably half a dozen attack submarines could probably wreak havoc on any Chinese fleet. So where do we want to put our money?

**GENERAL HOWARD:** Yes, sir, right here in the middle? I'd like to challenge our microphone holders there.

**AUDIENCE:** Eric McVadon, the Institute of Foreign Policy Analysis. I want to play devil's advocate for just a moment and raise the question with each one of the speakers that I thought was kind of left unsaid. General Amos, would you address sea basing vulnerability? And Seth, in our system, can we sell both engaging and cooperating with China and being ready to deter and defeat China? And J. D., what do you say about with respect to offensive missiles, high numbers and decoys and penetration aids as far as the effect on our ability to defend against them? And Bob, I see it as not the overall power of the U.S. Navy and U.S. forces, but rather whether the Chinese can go against niche vulnerabilities.

**GENERAL HOWARD:** Sir, you want to take that? Did he ask you a question? I think you need to leave pretty quick, Sir.

**GENERAL AMOS:** You know, I think if I look at—That's a good question. In our dealings with trying to take a look at MPFF, which again I consider to be kind of the heartthrob of sea basing, I guess you could have a sea base out there somehow without MPFF, but when you think of the connectors and you think of the ability to offload and that kind of thing, you're going to have to—That's a critical part of marine maritime pre-position—Not marine, but maritime pre-position ships future. So you have to have that.

When we looked at that and we said, "Okay, not only what are we going to have, what's going to make up, but how are we going to protect it?" which goes back to your question about vulnerabilities, we've become convinced at my level, and I think the senior level of the Marine Corps, that the Navy with sea shield will form our protection for the sea base. Without sea shield, the long range ballistic missiles are absolutely going to wreak havoc in a sea base, there's no question about it. Part of the reason why we've had all this discussion in Washington over the last six, seven months about the expeditionary fighting

vehicle and coming from 25 miles from the sea, was to get outside of the range of the shorter range missiles and to get out into a protected zone.

So I tell you, we're hanging our hat on sea shield because you take a sea base itself, and it's going to be made up of—I mean, it's going to have some great bottom ships, it'll have some black bottom ships in there, you'll have ships from our allies, you'll have ships from—You could easily have ships from the U.K.N.L. in there. And those are not necessarily well protected. So I think the sea base is vulnerable, but we're designing this thing, mentally at least, to be able to pull inside the sea shield protection zone. So I don't know whether that answers your question, but that's what we're hanging out hat on.

**MR. CROPSEY:** Well, again, a good question. I think that if the American public can keep two ideas in its mind at one time, that it's possible to do both, which is to say to tell people that although war is not envisioned or desired, or expected, that prudence requires taking what the Chinese are doing seriously. I think that if the American public can understand what a President means when he says speak softly but carry a big stick, two different ideas, but they are connected with each other, that that shows an inclination and ability to grasp that. I think that if the American public can grasp what a President means when he says trust but verify, it's another indication that people are able to, if proper explanation is put in front of them, accept something which isn't immediately obvious. In other words, we're going to war next week. Or we should just simply treat them as England.

So I think it's possible, but it comes back to what I believe is absolutely critical to any kind of maritime strategy going forward, and the Navy's future. And that is being able to communicate outside of this room effectively.

**ADMIRAL WILLIAMS:** I think what you're probably asking, I assume, how would our missiles do against advanced technology missiles? Is that what you're talking about?

**AUDIENCE:** And a lot of them.

**ADMIRAL WILLIAMS:** Well, the “lot of them” is the reason why I recommended that we need at least 300 SM3s, and assuming what Bob said about the Chinese missiles, and I don’t want to say assuming what you said is true, but assuming that is true, the SM3 would handle that missile. But 150 won’t handle all the missiles China’s building. Now, what I didn’t mention very much today, which is also a recommendation, I remember when—I won’t say it. I think I know who was the key guy that calls the cancellation of the Navy’s terminal block 4A program back when that was done. But no matter what it was, I wrote an op. ed. piece. I think that was a national disaster because a terminal missile is the only missile to handle the short range missiles. The Navy does not have the capability against those short range missiles. It only has the SM3, will handle long range missiles.

So we need an MDA, finally, and I told them in my piece, I said, “Hey, it would take at least four or five years and several billion dollars to develop another missile.” And at that time, General Kadish, “The Navy doesn’t need that.” Which is somewhat surprising from a guy who headed up NDA at the time. NDA now under General Obering, has put some money in the budget to build a terminal missile for the Navy. We still don’t know what kind it’s going to be. We need to do that, I’d say, on the urgent basis because we may need to protect the sea base against the shorter range missiles before we’d ever get long range missiles coming at them. So we need to do that on an urgent basis so we’ll have some defense against the shorter range missiles. And I would say missiles under three, four hundred kilometer range.

**MR. WORK:** The Chinese problem is really two different problems. One is a potential miscalculation over Taiwan in which we would have to go in, and unlike in the Cold War where the Navy was on the offensive and could use the mobility of its carrier forces to strike, we would be tied down to defending a specific geographical location which would rob carrier forces of much of their mobility.

And the Chinese have latched upon that with their ballistic missiles and their submarines and buying SSN27 sizzlers, which you've written much about. And they have a concept which I think most the people in this room would know is called shashoujian, I think I pronounced that pretty close, but it's kill, hand, mace, sword. It's assassin's mace, they pick vulnerabilities and they go after those very, very effectively.

And I think the U.S. Navy needs to get into the cost imposing strategy back. We're trying to push in and fight maybe three or four hundred miles from Taiwan right in the midst of their anti-access area denial, whereas I think fighting from range would maximize our defenses, would make their problem harder, would allow us to use SM3s. So how would you do that? Well, I just came back from a war game where some people said, "Hey, the way to do that is to fight the carrier from 1500 nautical miles with a system called the unmanned carrier combat air system and put submarines in close and have them do the sea add and roll back the sea add so that you could start to bring the carriers closer.

That's the type of thinking that I think the Navy is going through now. I think the Navy, admirals at PACOM get this. I think they follow the no better friend, no worst enemy type thing where let's have transparency, join us, but we are going to demonstrate that we can pretty much overcome anything you throw at it. And I think the Navy just needs to get back into the cost imposing strategy thing rather than building \$4 billion ships and trying to catch two or three or four hundred inbound missiles. Try to throw it back on the Chinese.

**ADMIRAL WILLIAMS:** Let me add one thing. I agree with the general comments, having spent much of my time in the Navy on nuclear submarines. His understanding what submarines could do to the Chinese surface navy is right on. That's the kind of thing, one of the many things we need to think about if we ever have to go to war with China.

**GENERAL HOWARD:** Way in the back? Let us know who you are, where you're from?

**AUDIENCE:** Chris Nichols, General Dynamics. Part of the mix is what we would call capital ships, and history shows us that if you start building capital ships at the start of the conflict, they don't make it to the fight. I'd like to have the panel's views on the necessity of capital ships, your vision of what constitutes a capital ship and the infrastructure necessary to build the capital ship.

**GENERAL HOWARD:** Who'd like to take that? Seth, you want to start?

**MR. CROUSEY:** No. [laughter]

**GENERAL HOWARD:** Admiral Williams?

**ADMIRAL WILLIAMS:** Yeah, that's a good question. We all probably have different views of what a capital ship is, but having to look at the vulnerability of ships, I'm not including submarines in this because when you submerge down deeper than, I guess, the classified depth is 400 feet, but we go deeper than that, you don't worry too much about vulnerabilities. But as far as the other ships, and I think I'm still correct, basically the larger the ship is, it's more protected. I would put a capital ship of anything over about 30,000 tons and you build a larger ship like the LHAs and like the large amphibious carriers, that's a capital ship. And it would take a lot to sink a capital ship.

So the whole Navy shouldn't be capital ships, but you need the right number of large ships in order to fight whoever ends up being our enemy, whether it's China or eventually Russia again. Who knows? We really haven't been very good in the past of predicting who the enemy's going to be until it's too late. And I agree with your comments, if you don't start building the larger ships, it ain't going to make the war. It'll be over, and it's not going to fight very well sitting in a shipyard except it makes a good target. So that's kind of what I consider—You could kibitz about the tonnage, but it needs to be a large ship, and that's how you get your protection.

**GENERAL HOWARD:** Seth, do you want to say something?

**MR. CROPSEY:** Yeah. I think that the idea of a capital ship had much more heft when the competition between navies for blue water was the most prominent form of naval competition. I would not say—I don't say that capital ships are gone, that the future is gone or anything else like that. But I think that one of the things that comes out of the changes in the world that have taken place after the Cold War clearly is diminished importance of competition between navies for blue water—For control over blue water. And I think that that has not yet had the effect on the shape and size of large ships that I expect we'll see in the future.

**GENERAL HOWARD:** Bob?

**MR. WORK:** Maybe it's in the midst of a grand transformation from what I'll call the total ship battle force, which is the way the Navy has traditionally judged itself, the number of ships in the battle force, to what I refer to as a total force battle network which includes in national fleet scenario, Coast Guard patrol boats all the way up to 100,000 ton carriers.

In a battle network, the idea of a capital ship, as Seth said, really starts to go down. And what you have are nodes that are more valuable than others. I would think any one of the 84 Aegis VLS combatants that we have right now, I would consider being a very important node in the network. And I think the Navy made exactly the right decision in the 1990s not to go with the arsenal ship and put all of their 500 cells on six ships. They put almost 9,000 cells on 84 ships. And if you gave every one of those 84 ships the capability to go after ballistic missile interceptors, you have an extremely powerful battle network.

Your point on the—I believe that in the last two or three years, that the Navy has blamed too much of the problems on industry. That the competition strategy that the U.S. Navy has to have right now is to maintain the R&D industrial base, maintain the design base,

and maintain—I mean, R&D, design and then the building base. And I believe the Navy and industry can do better, but I do believe the Navy has put too much of the burden on industry on saying, “You are the cause of the problems,” when most of the studies show that a large part of the problem is constantly changing requirements on the ships.

So as we shift to this total force battle network, it is going to these very large, 14,000 ton ships which have a lot more passive survivability but are extremely more expensive. Is that the best way to go, or is more distributed? And how do we do this to keep the industrial base hot, so if we are faced with a serious challenge, we can start to build? No answers yet, but we really need to get to that answer.

**GENERAL HOWARD:** We have time for one more quick—

**ADMIRAL WILLIAMS:** Let me add a little bit to that, and I would agree with what Bob has to say. But I think as we go to what the proper mix is, and I don't have anything to do with that now except on a minor basis, but I don't think I have a lot to do with it, but I think it's important to keep the right number of large ships, or just what I said, to not have the vulnerabilities that a small ship has. And I agree that the right protection is a mix of smaller ships, which are LCS, and the Aegis and then you can build networks today, or the net centric warfare, really does work with that—We call it, I guess, Marine or maritime domain awareness. And that's where you get your protection, by a whole force of ships, small, submarines and Aegis, right on up the line. But eventually having had Sixth Fleet, and when I was introduced to amphibious ready groups, and I want to tell you, I wish the Marines—I guess they have some, but you want some Marine—Is having had the big helo deck carriers over there, I want to tell you, there's nothing more powerful in tomorrow's world than having a number of those ships, and I would have about the same number as I do of the carrier. What you can do with those is more than you can do with a normal carrier as far as helicopters and medical evacuations. Just all kinds of things that gives you the capability to do, what you can't do with a small ship.

So as we go into the next—Whatever the sea power strategy turns out to be—The right mix, choosing that right mix, is just as important, if not more important, than it was before.

**GENERAL HOWARD:** We're out of time. The only thing between you and a Miller Light is me. So my closing remarks will be brief, and like the General, succinct. Best quote of the day, "Spot welding can repair a ship. It wouldn't make a very good one." Think about it. If we as a nation give up our weapons procurement capabilities, if we outsource everything, what are the chances for gearing up for a major international war like World War II?

My final thing I want to say, I'd like to thank Bob Pfaltzgraff and Jacque Davis and IFPA for making this conference possible, for putting it on as they have for so many years. I know of no conference in the United States or even overseas that brings in so many high level decision makers who sit before an audience and talk very candidly about their profession and about the future. So Jacque and Bob, good for you, thank you very much. And let's thank our panel.