Naval War College Review

Volume 44
Number 3 *Summer*

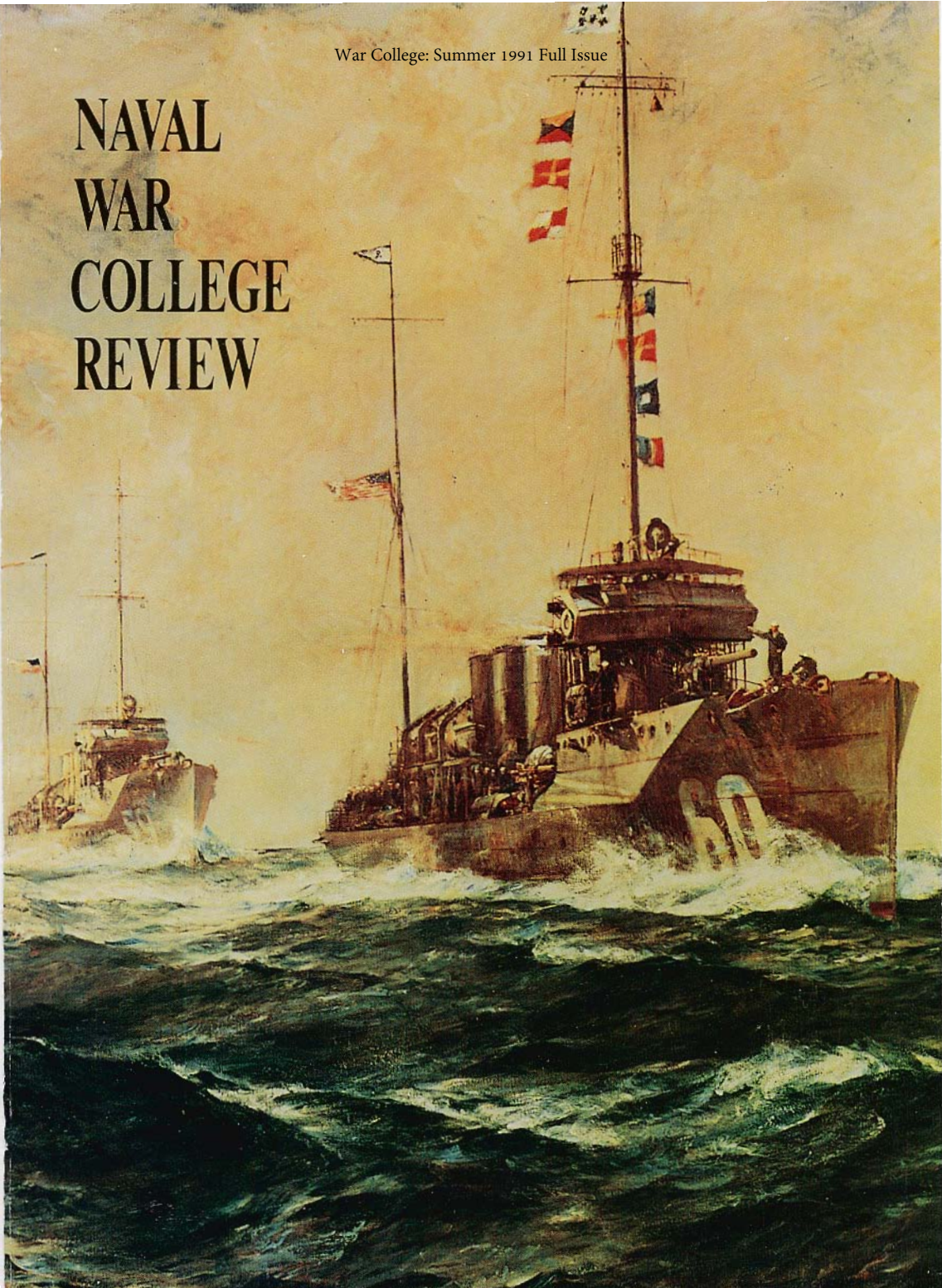
Article 34

1991

Summer 1991 Full Issue

The U.S. Naval War College

NAVAL WAR COLLEGE REVIEW



SUMMER 1991

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NAVAL WAR COLLEGE REVIEW

Volume XLIV, Number 3, Sequence 335 Summer 1991

Our cover: The *Wadsworth* (60) and *Porter* (59) lead a column of U.S. destroyers into Queenstown, Ireland, in May 1917, in this detail from B. F. Gribble's painting, *Return of the Mayflower.* Those destroyers were part of the solution to the problem discussed by Lieutenant Commander McKillip on pages 18-37 of this issue. Illustration courtesy of James Cheevers of the U.S. Naval Academy Museum (where the painting is on display) and Patty M. Maddocks of the U.S. Naval Institute.

The Secretary of the Navy has determined that this publication is necessary in the transaction of business required by law of the Department of the Navy. Funds for printing of this publication have been approved by the Navy Publications and Printing Policy Committee.

President's Notes

NOW THAT THE WAR in the Arabian Gulf has been terminated, all of our Services are quite properly examining our recent operations there in some detail to ascertain how we might have done them better. This is as it should be since there is no better opportunity than actual combat to measure the effectiveness of our people, equipment and tactics. To ignore this opportunity to learn from our mistakes would be the height of folly.

Having said that, we should not allow ourselves to be mesmerized by what may have gone wrong and overlook the fact that the United States and our coalition partners achieved a tremendous victory during operations Desert Shield and Desert Storm. Far more went right than went wrong to enable us to defeat so soundly a battle-hardened country boasting the world's fourth largest army.

Admiral Strasser holds a B.S. from the Naval Academy, two master's degrees from the Fletcher School, Tufts University and, from the same school, a Ph.D. in political science. He was graduated from the command and staff course at the Naval War College in 1972. He commanded the USS *O'Callahan* (FF 1051), Destroyer Squadron 35, Cruiser-Destroyer Group 3, and Battle Group Foxtrot. His seven years in Washington include two years in the office of the Chairman, JCS.

We won and the other guy lost; we shouldn't let the country and particularly certain sectors of our news media overlook that.

As I read the newspaper and listen to the evening news, I have to keep reminding myself that we are the victors. The advice that the Chairman of the Joint Chiefs of Staff did or did not give the President with respect to Desert Storm is being closely and publicly dissected as though it somehow will, after the fact, have a bearing on how well our military did in combat. The contributions of the Navy and Marine Corps to the total war effort have been criticized by some armchair strategists who simply are not aware of the total role played by our maritime forces in what was essentially a land and air campaign. I think it useful to review briefly the important capabilities provided by the Navy-Marine Corps team in the immediate aftermath of the brutal 2 August Iraqi invasion of Kuwait as well as the major impact that these forces had on the overall results of the war.

Operating in the vicinity of Diego Garcia at the time Saddam Hussein's troops crossed the Kuwaiti border, the *Independence* battle group was in the Northern Arabian Sea and within strike range of Iraqi forces by 5 August. Three days later the *Dwight D. Eisenhower* and her escorts were in the Red Sea providing, with *Indy*, a combat-ready force of 164 aircraft and scores of Tomahawk missiles capable of hitting Iraq from two directions.

The Second Maritime Prepositioning Squadron (MPS) ships loaded with Marine Corps equipment arrived in Al Jubail, Saudi Arabia on 15 August. The First Marine Division, airlifted to Saudi Arabia on 249 C-141's, joined up with its equipment and by 10 September was in place and combat ready with 60 days of combat supplies. By that time, the *Saratoga* and *Kennedy* battle groups were in the area, and shortly thereafter the two hospital ships *Comfort* and *Mercy*, activated in response to the invasion, were en route to the Arabian Gulf. Each of these ships provided 500 hospital beds. In conjunction with two fleet hospitals ashore possessing an additional 1,000 beds, they were responsible for the majority of the medical support in the early phases of Desert Storm.

United Nations economic sanctions against Iraq were implemented on 6 August and were continued throughout the war and during the postwar period. This embargo has been enforced exclusively by United States and coalition maritime forces and by April was responsible for challenging 8,500 ships at sea. Of that number, some 1,100 were boarded to examine their papers and cargo, and about 60 en route to ports of Iraq or Iraqi-sympathizers were diverted. These sanctions eliminated over 90% of Iraq's imports and almost 100% of her exports during this period, causing a reduction of about 50% in that nation's GNP.

By mid-January naval strength in theater had grown to six carrier battle groups and two Marine Expeditionary brigades afloat plus the already mentioned First

Division ashore. This force of approximately 75,000 sailors aboard some 110 ships and 82,000 marines both ashore and afloat amounted to 56% of our Navy's amphibious forces, 38% of the Marine Corps and 54% of the deployable carrier fleet.

The United States air campaign enjoyed tremendous success. It began with the launch of Tomahawk land attack missiles fired from cruisers, destroyers and battleships, and later by submarines as well, in the Persian Gulf and Red Sea. These missiles, the first of nearly 300 expended as part of the carefully crafted integrated air campaign, were successful in eliminating Iraqi air defenses and the ability to control aircraft from the ground. Naval aviation, with approximately 25% of the combat aircraft in theater, was responsible for an equal percentage of the strike sorties flown in Iraq. Four carriers operated *inside* the Arabian Gulf, and together with the two in the Red Sea, coalition air forces in Saudi Arabia and USAF units in Eastern Turkey effectively surrounded Iraq with a strike capability from four major axes. In addition to the tremendous demoralizing and destruction effort of the air campaign on Iraqi forces and equipment, it virtually eliminated Iraq's electrical power generating capability and destroyed her command and control structure as well as the capability to produce chemical, biological and nuclear weapons.

In evaluating the total contribution of naval forces to the defeat of Saddam Hussein, the demonstrated ability of Marine Corps forces afloat to tie down enemy units can not be discounted. At one point 11 Iraqi divisions were committed to defend against amphibious attacks that never came. This diversion of forces was a critical element of the overall campaign plan and key to the success of the ground attack to free Kuwait.

Sealift also had a major role to play and was one of the real success stories of Desert Shield and Desert Storm. While there is no denying that our airlift was terribly effective, sealift moved 90% of the cargo to the arena. More than 2.4 million tons of cargo was moved by sea during Desert Shield, an amount more than four times that moved across the English Channel to Normandy during the D-Day invasion in 1944. By way of comparison, the equipment moved by the Maritime Prepositioned Ships alone during the first part of August would have required 2,100 sorties by C-5 aircraft, the largest in our transport force.

As I have attempted to show, U.S. naval forces as well as those of our coalition partners contributed mightily to our resounding victory over Iraq. While this operation should *not* be considered a model for future military campaigns, it does again point out the important role that maritime forces will play in future joint and combined operations. In the throes of crises over the years, many United States Presidents have repeatedly asked the questions, "Where is the nearest aircraft carrier?" or "Where are the closest amphibious forces?" While the threat has changed recently, and instability rather than the Soviet Union now appears to be our most immediate concern, there is little doubt that present and future

leaders will continue to rely on naval forces in times of international turmoil. We have always been ready in the past; our challenge is to maintain our readiness to engage in prompt and sustained combat operations at sea in support of national policy.

JOSEPH C. STRASSER
Rear Admiral, U.S. Navy
President, Naval War College

Stealth in Naval Aviation
A Hard Look

Commander Mark P. Grissom, U.S. Navy

STEALTH: THE WORD ITSELF is spoken almost in a whisper, producing images of swarthy men in trench coats with turned-up collars ominously sneaking about in the dark of the night. According to Webster, that image is accurate; he defines stealth as the "act or action of going or passing furtively, secretly, or imperceptibly."[1] So it is fitting that the aircraft industry and the Department of Defense have widely applied the word stealth not only to the technology of reducing the radar cross-section (RCS) of an aircraft, but also to the entire genre of aircraft specifically designed to employ that technology. At present, the U.S. Air Force has operationally deployed its F-117A stealth aircraft in Iraq with reportedly impressive combat results, and has selected the Lockheed-Boeing YF-22 Advanced Tactical Fighter (ATF) for production. Not so successful was the U.S. Navy's stealth aircraft, the A-12 Avenger Advanced Tactical Aircraft (ATA), which was cancelled by Secretary of Defense Richard B. Cheney in January 1991.

Prior to the A-12's problems and the defense budget spending cuts, the navy had intended to produce the Naval Advanced Tactical Fighter (NATF), a carrier-capable version of the air force-led ATF; and from the navy-led ATA, in turn, the air force was to have created a new low-observable attack aircraft to replace the F-111. Not only do recent changes in this plan raise questions, but the low-observable technology itself raises questions that need to be asked from the navy's standpoint. Is stealth really needed in a mission and threat context? Is the technology supportable and maintainable on the flight deck of a carrier? Is stealth affordable for the navy in today's fiscal environment? (Former Secretary of the Navy John Lehman once said, "The rule of thumb is that you forgo two hundred of the existing generation of fighters to pay for the research to obtain a new one."[2]) Lastly, while waiting for the A-12 replacement, what do we do in the interim?

Commander Grissom is a graduate of the Naval War College and holds a master's degree from Salve Regina College. He has commanded an F-14 fighter squadron (VF-74), and is currently Commanding Officer of VF-101 at NAS Oceana, Virginia.

Technology And The Navy's Mission

In 1970, then-CNO Admiral Elmo Zumwalt listed four U.S. Navy missions: Strategic Deterrence, Sea Control, Projection of Power, and Naval Presence.[3] These missions have been reaffirmed by subsequent naval leaders, most recently by Secretary of Defense Cheney in his comment on power projection, "the United States needs to maintain the capability to project power through the use of naval strike forces."[4] The only change arising over the years has been in the *instruments* used to carry out the missions. We have progressed through a series of increasingly capable and expensive aircraft, missiles, and weapons systems with which to achieve success. In general, technology has given us more reliable aircraft carrying larger payloads of more accurate weapons (including precision-guided munitions), and also the capability to deliver weapons in an all-weather environment. We also have support aircraft specialized for electronic jamming, air-air refueling, and airborne early warning—all designed to help us accomplish our mission more effectively. What then is to be gained by pursuing stealth?

Where Is Stealth Needed In Naval Aviation?

Within the navy's four overarching missions mentioned earlier lie individual warfare areas associated with specific types of aircraft; not all of these would benefit from the low-observable concept. Antisubmarine warfare and the S-3, airborne early warning and the E-2, and electronic jamming and the EA-6—all of these pairings, to give three examples, either involve radiation of electromagnetic energy (which negates stealth) or they do not act in a threat environment that justifies the cost of stealth.

Less obvious but certainly more contentious will be the assertion that current-design fighters performing as combat air patrol and strike escort would not gain enough from stealth to justify the cost of developing low-observable replacements. Any mission which includes detection and prosecution of enemy aircraft at range requires the fighter to use its radar to support its long-range missiles. The emissions of these high-power radar transmitters are detectable and identifiable at extremely long ranges and are thereby incompatible with the purpose of stealth. The passive infrared search and track system installed in the F-14D *is* consistent with stealth, and produces very impressive detection ranges, but it cannot alone direct the radar-guided AIM-54 Phoenix or AIM-7 Sparrow missiles. Further, as will be argued later, even if it were possible to make all tactical aircraft invisible, would it be the correct thing to do strategically?

Power Projection. The "power" in power projection is embodied in strike aircraft reaching the target and putting ordnance, whether Mk 80 bombs or precision-guided munitions, on target. It could be argued that even the *possibility*

of becoming able to enter the enemy's airspace undetected, deliver this ordnance, and then return unscathed to home base is sufficient reason in itself to proceed with the stealth concept, regardless of cost or technological challenges.

However, today's tactical practice already calls for creation of a "sanctuary" in which strike aircraft can operate with a reasonable expectation, consistent with the accepted risk of the mission, of reaching the target and delivering weapons. Creating this sanctuary is a scenario-dependent and complex operation involving suppression of enemy air defenses (SEAD), which uses electronic jamming, deception, and anti-radiation missiles such as Shrike or the High-Speed Anti-Radiation Missile (HARM). Although this description of the SEAD effort is grossly oversimplified, it makes the point that *if* the SEAD campaign were perfect, rendering all enemy air defenses ineffective, the strike aircraft would then have its sanctuary and only putting "bombs on target" would remain for mission success.

If we can create this perfect sanctuary, stealth will not be needed for the strike aircraft. So should we not concentrate our resources on making perfect sanctuaries vice invisible aircraft? As a matter of cost-benefit analysis, then, should we invest money to improve our jammers, remotely piloted vehicles (RPVs, used for deception), the standoff ranges of weapons, and our cruise missiles so as to create near-perfect sanctuaries? Or should we pursue stealth with a view to reducing the number of fighters, jammers, and HARM launchers needed on a given strike and thereby increasing the ratio of bombers to support aircraft? Perhaps some of the many lessons yet to be learned from the war with Iraq will help answer these and other questions.

In keeping our focus on the aircraft carrier and its organic assets, however, it is probably unreasonable to postulate a perfect sanctuary—which brings up the final assertion regarding the mission or aircraft-related need for stealth. If we support a SEAD campaign with electronic jamming and deceptive RPVs intended to entice hostile radars to transmit and thus become vulnerable to HARM missiles, the HARMs would be most effectively employed by an undetected launch platform. A firing aircraft which is undetected can achieve optimum ranges and timing for missile launch, which increases the probability of success for the SEAD effort and the entire power projection mission.

But why use stealth just in a supporting role, as part of SEAD? On the surface, it would seem the real advantage of low-observable technology lies in its tactical use in the power projection mission. Because even though any high-value target is sure to be surrounded by a layered defense which includes fighter aircraft, surface-to-air missiles, and anti-aircraft guns, if we could produce an aircraft with a radar cross-section small enough to prevent missile or gun engagement our sanctuary would be with us wherever we go. With radar-dependent enemy air defenses no longer a factor, could we not then forgo the complex task of creating a sanctuary? Unfortunately, it is not so simple. For even if the strike is carried

out in daylight, avoiding terrain obstacles and acquiring the target by visual means, our stealth aircraft is invisible only to radar and not to optically guided weapons or sightings by fighter aircraft. If the strike is conducted at night or in bad weather, then the use of any emitter in the attacking aircraft, whether it be radar altimeter, terrain-following radar, or target acquisition radar, transforms our aircraft into a detectable electromagnetic energy producer. Techniques exist to reduce such emissions, alleviating part of this problem, but the point remains that stealth technology is not a panacea for either daylight or night strike scenarios. An overstatement? Perhaps, but it is no more so than the idea of overflying hostile territory, attacking, and retiring, all without support and virtually undetected.

Deterrence and Presence. Let us assume for a moment that the technological challenges have been overcome and we have an aircraft that is all but invisible to current detection systems, one that operates in enemy airspace with impunity. But where now is strategic deterrence? Or naval presence? Or the psychological effect of scores of aircraft displayed on every long-range radar screen within hundreds of miles? To take the problem a step further, let us now assume tensions are increasing in some remote Third-World "brushfire;" could the very property of stealthiness be y*destabilizing*? For example, might not a nervou weapons system operator or fire control officer take preemptive action (such as launching a missile) against a tenuous or even spurious radar indication, thinking that *maybe* it was the barely detectable radar return of an attacking stealth aircraft, and thereby unnecessarily escalate tensions? Of course none of this can be stated with certainty, but quite possibly the quality of stealthiness which we have pursued with so much money and effort could in fact work in a destabilizing manner, increasing the chances of armed conflict rather than deterring it.

Having argued that low-observable properties could adversely affect, rather than enhance, the missions of deterrence and presence, it should be mentioned that one radar absorbing material (RAM), a paint known as "iron ball," could partly ameliorate this problem. It is reported that the radar-energy distortion capability, or mutability envelope, of iron ball can be manipulated through cockpit controls.[5] It would then be theoretically possible (still assuming all technological challenges can be overcome) to vary the radar signature of aircraft—displaying perhaps a twenty-five square meter radar return when it is important to reveal one's presence, then reducing the signature to perhaps one-tenth of a square meter or less to deliver the weapons. This concept does satisfy the naval presence problem, but nonetheless the mere *ability* to reduce RCS to the very edge of detectability remains destabilizing in periods of heightened tensions when attack is a possibility.

Detection by Other Means

The stealth concept has been discussed here only in the context of reduced radar cross-section and shorter detection ranges. However, radar is only one of several means of detecting aircraft. Electronic surveillance measures (ESM) and optical and infrared (IR) sensors are other examples. To be *really* stealthy, one must defeat these detection methods as well. As noted above, electromagnetic energy is detectable and identifiable by ESM, which presents problems in a night or bad-weather environment.

Tactical aircraft have long used various paint schemes for two purposes: to help reduce visual detection range and to confuse or delay enemy determination of an aircraft's aspect or direction of turn. Schemes to reduce visual detection ranges have extended from such basic measures as flat grey upper surfaces and white below to more exotic camouflage patterns using the colors of the specific battle arena. A recent navy experiment used water-based paint on F-14s in various flat blendable colors in an attempt to produce camouflage patterns nearly instantly adaptable to any over-land environment. Even this "fix" was not completely successful in that no one pattern or color has been found effective throughout the whole of even a single mission. For example, a green-brown camouflage may be effective when seen from above against a land background of similar color, but the same aircraft may show up as a distinct black silhouette against a light overcast sky. Other attempts at deception have included angular patterns designed to prevent resolution of aspect angle, and painting canopy silhouettes on the bottom of the fuselage to mask direction of turn. All these techniques have been effective to some degree, but none are perfect—we cannot make an aircraft invisible.

Composites technology, so critical to modern aircraft design and structure, has contributed to reduction of aircraft IR signature. Carbon composites such as carbon grain and ultradense carbon foam have excellent infrared radiation dissipation qualities, for example. The F-117A reportedly uses reinforced carbon fiber in outer skin panels near the engines to improve its IR signature reduction properties. Other techniques such as mixing cool bypass air with hot turbine exhaust gases in jet engines can also help reduce IR signatures. Afterburners, however, a requirement for a high-performance fighter, produce an infrared signature detectable for miles by even relatively unsophisticated sensors. Even if we assume non-afterburning performance is sufficient for a bomber, continuing improvements in IR search and track capabilities may eventually pose a detection threat to the stealth aircraft. On the other hand, it is also possible that IR signature-reducing technology will outstrip that of IR detection, in which case the IR spectrum would not provide detection ranges sufficient for early warning, maybe not even for effective weapons guidance, against a stealth platform. I

cannot accurately predict the relative rate of development of these technologies, but infrared does represent a threat to stealth which cannot now be discounted.

For argument's sake, however, let us once again assume that stealth technology will triumph and that the signatures (radar and IR) of tactical aircraft can be reduced to the very edge of detectability. Even then problems still remain, particularly for carrier-based stealth aircraft.

Carrier Suitability

The stealth property of low RCS is produced in three primary ways: airframe shape, internal construction, and coatings. Airframe shape and internal construction are closely tied to low observability and can produce a small RCS even without a RAM coating. RAM paints, on the other hand, can provide some reduction of RCS even when applied to "non-stealth" airframes. So, although these three elements can be employed as independent techniques, they all can play a part in the stealth effort and all become special factors on an aircraft carrier flight deck, where salt spray and limited space for parking and maintenance take their toll.

The fundamentals of low-observable design include avoiding, first, boxy and angular airframes with parts joined at right angles; second, large, open, engine air intakes; and third, flat and nearly perpendicular surfaces such as planar radar antennas.[7] Externally carried weapons and fuel tanks, and cockpits not protected by specially treated canopies, are all well-known sources of radar reflectivity.

The fact that *anything* carried externally will destroy the low-observable properties of the airframe demands internal bomb bays in stealth designs. Internal bomb bays, in turn, result in much lower drag than in conventional aircraft with exposed bomb racks and weapons; they also result, however, in either a smaller payload, relatively speaking, or a larger airframe. In addition, creating a space within an airframe imposes its own weight penalty. The result is that stealth requires a larger, heavier, airframe to carry the same payload. Can technology, in the tradeoff between aircraft payload and size, produce a bomber with sufficient payload to be tactically effective which does not take up an inordinate amount of space on the flight deck? Some sort of compromise using "tactical contribution per area of flight deck occupied" as a criterion must be reached. There are also operational questions that arise regarding internal bomb bays. Exposed conventional bomb racks are easily accessible for quick loading for another combat mission. Can comparable re-arming times be achieved with internal bomb bays?

Airframe construction and RAM coatings, taken together, are another factor in low-observable aircraft design in the context of the aircraft carrier environment. Composite materials have been used extensively in combat aircraft in recent years; they include Kevlar, Spectra-100, and the Dow Chemical

Company's Fiballoy (speculated to have been used in the F-117A).[8] A great advantage of composites over metals is that the former can greatly reduce an aircraft's signature (RCS and IR) by absorbing and dissipating microwave and infrared radiation.[9]

But composites, if all their virtues are to be realized, must be manufactured under exacting standards to ensure uniformity of construction and strength. If a stealth airframe is damaged, the repair of the composite surface and underlying structure must maintain these exacting standards in order to preserve low-observable properties. Similarly, if the aircraft to be repaired has a RAM coating, that must be preserved without scrapes or large areas sanded bare. Although the difficulty of repairing composite and RAM-coated surfaces vis-a-vis aluminum would be greater aboard ship, that alone is certainly not a rationale for abandoning stealth in the navy. It is worth addressing, however, inasmuch as the navy has struggled to control the effects of the shipboard environment on aircraft since Eugene Ely first landed on the U.S.S. *Pennsylvania* in 1911. The inescapable fact remains that aircraft maintenance and movement in the close confines of an aircraft carrier still routinely result in dents and scrapes. Now with stealth, however, these imperfections would increase an airframe's radar reflectivity with respect to high frequency air intercept radars, undermining the very purpose of its low-observable design.

Stealth Technology Claims Viewed At The Extremes

So far in this article, the assumption has been that all problems associated with low observable technology can be overcome, producing a tactically effective aircraft at a reasonable cost. In view, however, of the recent cancellation of the Navy's A-12 Avenger program—woefully behind schedule with very little to show for the $3.1 billion invested—is this a valid assumption?[10] In fact, the nearly impenetrable veil of secrecy surrounding many aspects of stealth technology has hidden not only the problems but also whatever successes exist; there are no unclassified test results available to document actual stealth aircraft RCS values or detection ranges against state-of-the-art radar systems. Despite the one-millionth square meter RCS claimed by one source for the Northrop B-2 bomber (which, incidentally, has a 172-foot wingspan),[11] that aircraft underwent a major design change in 1983 to give it the additional structural strength in its wings needed for low vice medium-altitude penetration—to take advantage of terrain masking.[12] Was this significant change the result of an air force conclusion that medium altitude would expose the aircraft to too many threats? Could it be that low-observable technology is not as impressive as those who are spending billions of dollars on research and development would have us believe? Does the ability to defeat stealth already exist in some other highly classified program, or worse, in an existing radar capability?

At the other extreme is the possibility that our technology will have produced an aircraft that will remain nearly undetectable by any conventional method for years to come. It is also possible that the cost of developing a revolutionary stealth-detection capability may be so prohibitive that even the B-2, at nearly a billion dollars each, would be the correct and cost-effective answer.

What Is The Correct Course For The Long Term?

Do the technological risks, mission effectiveness considerations, questions of operational suitability, and exorbitant cost mean the navy should abandon stealth technology altogether? Probably not, since this option has an "inopportunity cost"—what if stealth *is* everything we ever imagined it would be, and more? Do we want to risk *not* having the stealth technology when the Soviets might? But if we do get our new stealth aircraft and replace all the KA-6 tankers on the flight deck (since the S-3 is not fast enough in many operational scenarios), are we now to use extraordinarily expensive stealth airframes as tankers? Some of these "devil's advocate" questions neither have nor need immediate answers, but they should remind us that the decision to pursue and integrate stealth will not be easy.

Although the navy has requested no money in the fiscal 1992 budget for an A-12 replacement, a follow-on stealth program called the A-X is being considered.[13] An accurate assessment of F-117 performance in Iraq will assist us in making the correct long term decision about stealth and its application to the special problems and needs of the navy. If stealth is pursued, the program management and technological lessons learned from the YF-22, YF-23, and A-12 programs should help the navy properly procure and integrate the low-observable technology.

And For The Near Term?

With the A-12 cancellation, a replacement is still needed for the A-6. The Intruder's 18,000-pound payload remains the biggest on the flight deck, but it is an old airframe and structural problems in its wings have become more and more serious. A partial solution is to "re-wing" A-6Es; this option is being pursued, with over $850 million included in the fiscal 1992 and 1993 spending plans.[14]

Another alternative is the existing F-14D, which has an air-ground capability that includes iron bombs and HARM along with its proven air-air arsenal of the AIM-54 Phoenix, AIM-7 Sparrow, and AIM-9 Sidewinder. With the 27 February 1991 announcement that the Department of Defense would not release $988 million authorized for fiscal 1991 to remanufacture twelve F-14As into F-14Ds,[15] there is now no funding in the budget for either production of new

F-14Ds or retrofit of older airframes to that configuration. While the Pentagon estimated that terminating the F-14D would save $14.8 billion through fiscal 1997, it also dropped budget provisions for NATF demonstration and validation while the air force develops its own ATF.[16] If then, as it seems, the NATF and F-14D (and its possible derivatives, Quickstrike and the ASF-14 Advanced Strike Fighter)[17] are no longer viable programs, the Navy has left itself only one possible alternative for A-6 and F-14 replacement: the F/A-18.

The proposal for the F/A-18 includes developing two new versions, the E and F models. As described in *Aviation Week and Space Technology*, the E version will be a modified single-seat version of the F/A-18 which includes larger wings, a fuselage plug, increased fuel and payload capability, and an increased thrust version of the General Electric F404 engine. The F version is a two-seat trainer aircraft, but the intent is to develop a true all-weather, attack aircraft that can bridge the gap until the A-X comes on line."[18]

Conclusion

Low-observable technology is intriguing and holds great promise for meeting the navy's power projection mission and possibly others as well. But we should not plunge headlong into this high-risk area without, first, taking a prospective look at what stealth can do *for* us, and second, taking a retrospective view of what stealth has done *to* us. In any investment the level of risk determines the level of rewards and losses. But can we afford to lose? As the A-12 program's demise confirms, failure is expensive, can occur for a variety of reasons, and has far-reaching effects. We must determine how low-observable technology will adapt to the carrier environment, how it will be employed tactically, and what implications it will have strategically. Considering the time and money required to develop and deploy a new tactical aircraft, we cannot afford another mistake.

Notes

1. Webster's Third New International Dictionary. (1981), p. 2232.
2. John F. Lehman, Jr., *Maritime Strategy in the Defense of NATO* (Washington: Georgetown University Center for Strategic and International Studies, 1986), p. 12.
3. Roger W. Barnett, "The Origin of the U.S. Maritime Strategy, Part II," *Naval Forces*, no. 5, 1989, p. 59.
4. John D. Morrocco, "Navy Weighs Alternatives After Cheney Kills Avenger 2," *Aviation Week and Space Technology*, 14 January 1991, p. 18.
5. Joseph Jones, *Stealth Technology: The Art of Black Magic* (Blue Ridge Summit, PA: Tab Books, 1989), p. 49.
6. *Ibid.*, p. 44.
7. *Ibid.*, p. 14. The F-117A does indeed have a "boxy, angular, airframe;" this design, however, dates from the 1970s when the calculations involved with smooth curves were beyond the grasp even of the famous Lockheed "Skunk Works," which produced the F-117. See Malcolm W. Brown, "2 Rival Designers Led the Way to Stealthy Warplanes," *The New York Times*, 14 May 1991, p. C12.
8. *Ibid.*, p. 77.
9. *Ibid.*, p. 44.

10. "Packard Was Right," *Aviation Week and Space Technology*, 14 January 1991, p. 7.
11. Jones, p. 85.
12. Robert R. Ropelewski, "Stealth Bomber Schedule and Cost Reflect Risks," *Armed Forces Journal International*, February 1989, p. 28.
13. John D. Morrocco, "Navy to Upgrade F/A-18s, Rewing Additional A-6s," *Aviation Week and Space Technology*, 11 February 1991, p. 83.
14. *Ibid.*
15. John H. Cushman, Jr., "Grumman F-14 Pact Is Canceled," *The New York Times*, 27 February 1991, p. D1.
16. David F. Bond, "Defense Dept. Seeks to End F-16 Production, F-14D Remanufacturing," *Aviation Week and Space Technology*, 11 February 1991, p. 80.
17. Quickstrike and ASF-14 (Advanced Strike Fighter-14) are enhanced derivatives of the F-14D. Quickstrike would include radar modes optimized for ground attack, FLIR navigation and targeting pods, and Standoff Land Attack Missile capability among other air-to-ground weapons, according to Grumman officials. The ASF-14, to be available about the turn of the century, would combine some ATF technology with the F-14 airframe. See Stanley W. Kandebo, "Grumman Makes 11th-Hour Offer To Get F-14 Into Fiscal '92 Budget," *Aviation Week and Space Technology*, 6 May 1991, p. 25.
18. Morrocco, p. 83.

Ψ

There seems to be no way to prevent the human mind from pushing forward the edges of knowledge and experience. Every area of the unknown, the untamed, or the incomprehensible presents a challenge.

Charles Scribner, Jr.
In the Company of Writers
P. 182

Undermining Technology by Strategy
Resolving the Trade Protection Dilemma of 1917

Lieutenant Commander Robert W.H. McKillip, Royal Canadian Forces

> Whenever possible, vessels should sail singly, escorted as considered necessary. The system of several ships sailing together in a convoy is not recommended in any area where submarine attack is a possibility.
>
> Admiralty pamphlet, January 1917

> A more criminally stupid point of view, a more incredibly erroneous interpretation of naval history, it would be hard to imagine.
>
> John Winton, *Jellicoe* (London: Michael Joseph, 1983), p. 238.

THE INTRODUCTION of convoys for the protection of merchant shipping, which began on a large scale during the middle of 1917, is generally regarded as one of the major turning points of World War I. Relevant to this was the failure of the German submarine campaign to end the war in 1917, or even to improve significantly Germany's position—one of the most important factors in sealing the fate of the Central Powers. The origin of the decision to adopt the convoy system has been a highly controversial topic, due to the conflicting claims of then-Prime Minister David Lloyd George and then-First Sea Lord Admiral John Jellicoe. In his memoirs, Lloyd George makes the unequivocal claim that he forced the convoy system on an unwilling Admiralty, a claim adamantly denied by the contemporary Board of the Admiralty who assert that the convoy system was instituted as soon as it was both needed and possible.[1]

From the Dreadnought to Scapa Flow,[2] Arthur Marder's masterful history of the Royal Navy in the Fisher era, makes clear that the Admiralty had reached the

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decision to adopt at least an experimental convoy system prior to the "intervention" of the Prime Minister. Marder seems to indicate that this decision was long delayed by the absence of an effective naval staff system, as well as training in strategy and tactics for naval officers. In effect, his argument is that the German attack on British shipping came close to causing the collapse of the Allied war effort in 1917 because of the kind of muddleheaded and shortsighted thinking that became synonymous with the general view of pre-1918 military leadership.

Jellicoe, however, the Royal Navy's chief strategist, does not seem to fit this general picture of the "woodenheaded" military leader. He was noted throughout his youth as having an above-average intellect, and his career attests to numerous instances of extraordinary competence, intelligence and courage.[3] His management of the Grant Fleet during his tenure as commander in chief, although controversial, demonstrated a perhaps unparalleled combination of tactical ability and understanding of the strategic aim. His voluminous writings point to a thoughtful and literate mind and an almost encyclopedic grasp of both the principles and the details of his various professional positions. What, then, led this evidently intelligent, experienced and well-informed professional, and many others like him, to adhere to this "criminally stupid point of view"? This study intends to answer that question through examining the context of the convoy decision with regard to pre-1914 naval thought; the lessons of the early years of the First World War; the strategic situation during the "crisis" of early 1917; the character, abilities and goals of the central decision makers; and finally, by drawing strategic lessons from the history of the implementation of trade protection measures in the First World War.

The advantages of convoying now seem so glaringly obvious that the actions or inactions of the Admiralty in this regard appear to be inexplicable. We are, however, being wise after the fact. One of several traditional trade protection measures,[4] convoying had not simply been dropped from the programme of naval measures by an oversight. Neither had it been the victim of shallow investigation by anti-intellectual naval officers intent on eliminating defensive thinking from naval doctrine. The implications of various developments in naval and commercial shipping technology had, for example, been carefully analyzed at the Royal Naval War College by Sir Julian Corbett, probably with influence from two of the war college directors, Rear Admiral R.S. Lowry and Rear Admiral Lewis Bayly.[5]

It was considered that the tremendous volume of British and neutral commercial shipping trade to and from Britain was protection in and of itself. As Corbett wrote, ". . . the measure of a nation's vulnerability through its trade is the percentage of destruction that an enemy can effect." With literally tens of thousands of commercial vessels worldwide, an enemy would have to sink a very large number of ships to make an effective impression on Britain.[6]

Furthermore, given the protection afforded to both neutral and belligerent commercial shipping under international law, as well as technological advances, the practice of commerce warfare had become far more difficult than in the past. To lawfully seize a merchant vessel, a cruiser would have to find, stop and search the vessel, determine if it carried contraband and, if it were deemed a legitimate prize, be prepared with a competent crew to take the vessel to port for prize court proceedings. All belligerent merchantmen who were told to stop, and any neutral vessels that were stopped but not taken as prizes, would advertise by radio the position and identity of the restraining cruiser. Steam-powered cruisers were dependent on frequent refueling, which restricted the distances they could travel from shore bases. Shore bases in overseas colonies could be seized by a more powerful navy, and protected homeland bases would be subject to blockading. These constraints were believed to further reduce the incidence of commerce raiding as a decisive weapon for a weaker power.[7]

Moreover, the advent of steam power for the majority of commercial vessels meant that they were no longer confined to, and therefore no longer concentrated in, known areas dictated by the constraints of prevailing winds. This greater dispersal of commercial ships, which were now enhanced with improved navigation, allowed the modern vessels to sail directly to their destinations without having to make one of a limited number of safe landfalls. Additionally, the increased number of ports in Britain in the twentieth century allowed vessels even greater dispersion. With the introduction of radio, ships at sea could now be warned to remain clear of areas in which a raider was known to be operating. The raider, therefore, would have to steam farther and would find fewer victims, thereby making his operations not only more costly, time-consuming and complicated, but less effective.[8]

The quandary of the power attempting to carry out a *guerre de course* was cogently stated by Corbett: ". . . if he tries to ignore our battlefleets, and devotes himself to operations against trade, he cannot dispute the command. Whatever his strength, he must leave the command to us. He cannot do both systematically, and unless he attacks our trade systematically by sustained strategical operation, he cannot hope to make any real impression.[9] Thus, the Royal Navy's preponderance of power theoretically gave her the ability to contain the bulk of the German High Seas Fleet, thereby preventing the Germans from carrying out a sustained strategical operation powerful enough to adversely affect British trade. The Royal Navy would blockade the High Seas Fleet in its harbours where it was safe and neutralized, and then, on the outbreak of war, proceed to capture German overseas bases and hunt down any German commerce raiders or merchant vessels at sea.[10]

It is very important to realize that prior to the war, predictions of the impact that the submarine would have on commerce warfare almost universally discounted the submarine's capability to even participate in this type of warfare.

Herbert Richmond wrote that the "submarine has the smallest value of any vessel for the direct attack upon trade. She does not carry a crew which is capable of taking charge of a prize, she cannot remove passengers and other persons if she wishes to sink one."[11] Corbett felt that no country would "incur the odium of sinking a prize with all hands,"[12] and this seemed to be the submarine's only practical method of operating. The only senior policymaker to hold a divergent view was Admiral Sir John Fisher, who felt that international law would (even should) be cast aside, as necessary, in wartime, and that German submarines would therefore pose a serious threat in a war with Britain. His Cabinet paper on the subject was not circulated, apparently because Prime Minister Herbert H. Asquith "thought it fantastic that any civilized people would resort to such savagely ruthless tactics."[13]

It appears that the assumptions underlying the perceived unsuitability of the submarine for commerce warfare were heavily coloured by the concept that naval powers would adhere to the principles of international maritime law. At first glance this might seem a quaintly idealistic notion for the twentieth century, but the British had good reason to believe that international law would be observed. Responding to military reverses at the hands of the Boers during the "Black Week" of mid-December 1899, the British attempted to prevent supplies from reaching the land-locked Boers by intercepting neutral commerce bound for the Portuguese Mozambique port of Lourenco Marques. These actions so provoked the United States and Germany that Britain abandoned her campaign, fearing that her status in both North America and Europe would be undermined. During the Russo-Japanese War, the British rejected Russian contraband rules and forced the Russians to suspend operations of the "Volunteer Fleet" armed merchant cruisers *Petersburg* and *Smolensk*, rendering the Russian commerce war "absolutely useless to Russia."[14] The possibility that submarines could effectively evade the more powerful navy's command of the sea and make a "sustained strategical operation" against commercial shipping in defiance of international law was just not considered to be within the realm of the possible.

Corbett discussed convoy and decided that it was not only unnecessary, but would divert forces from strategically more profitable efforts. The collection of ships into a convoy forges an important target for enemy operations. If the enemy threatens convoys with increasingly powerful forces, there will be a tendency to commit, or "deflect," larger and larger forces to the direct protection of the convoy, thereby diminishing the number of ships available for strategic operations. Thus, the enemy weakens the forces directly containing him, thereby increasing the likelihood that he will be able to concentrate his forces toward some other strategic end. Corbett felt that in this potential strategic deflection "lay the most serious strategical objection to the convoy system."[15]

It is clear for a number of practical and legal reasons that prewar naval strategists believed that a policy of commerce raiding was not likely to be strategically

decisive. There was a consensus that submarines would be technologically and legally hampered in operations against trade to such an extent as to be rendered useless for the task, and that the real threat to shipping would come from surface raiders detached from the enemy battle fleet or from converted merchant vessels. Trade protection measures were therefore determined to be inherent in the measures that would be taken to destroy or contain the enemy battle fleet and to capture his overseas possessions. Convoys were considered to be unnecessary, and furthermore, they appeared to have serious theoretical disadvantages that transcended any inherent advantage they might hold.

At the outbreak of the First World War the Royal Navy was prepared to protect all aspects of Britain's maritime interests. Technology had rendered the close blockade untenable—as the Royal Navy had learned through fleet exercises between 1901-04—and by 1913 the concept had been given up entirely. The new war plan of 1914 spelled out the "distant blockade" of Germany through blocking the Channel and the northern exits of the North Sea. The British Grand Fleet began carrying out sweeps of the North Sea "in superior force" often enough to "impress upon the enemy that he cannot at any time venture far from his home ports without such serious risk of encountering an overwhelming force that no enterprise is likely to reach its destination."[16] With this effective military blockade in place, German overseas bases were attacked and German merchant shipping was captured, sunk, or driven into internment in foreign ports. German cruisers did some damage in the early months of the war, but were hunted down and destroyed before they made any real strategic impact. The panic created among ship owners and the general public—designed to be a major effect of the *guerre de course*—was neutralized by the inception of a War Risks Insurance program which guaranteed a generous payment for shipping lost to cruisers.[17] British prewar trade protection doctrine had been validated as "the threat of surface raiders turned out very much as the Admiralty had expected" and as the countermeasures turned out to be equal to the threat.[18]

Successful German naval strategy was dependent upon British attempts to use a close blockade for at least part of the time, thereby giving the Germans "abundant opportunities to equalize naval strength."[19] Jellicoe, at that time Commander in Chief of the Grand Fleet, was well aware that Germany's hopes for dominating Britain at sea lay in their capacity to whittle down the number of British capital ships until German superiority had been realized. British trade protection, and in fact her whole national strategy, was based on the superiority of the Royal Navy, and "it was incumbent upon Jellicoe . . . to shun and guard against any danger that threatened to reduce or destroy the superiority in numbers that was . . . [the Royal Navy's] unromantic but principal asset."[20]

The German submarine strategy was to scout for the German High Seas Fleet and to ambush British capital ships. The British learned early in the war that their large ships were vulnerable to submarines after suffering such losses as the

"three Cresseys."[21] They also discovered that, when screened by their torpedo boat destroyers, the Grant Fleet ships were relatively safe from attack; conversely, the Germans learned that it was very hazardous to attack ships that were being screened.[22]

The German strategy was therefore largely nullified from the first days of the war by the Royal Navy's strategic dispositions of the distant blockade. Their strategy was further impaired by the fact that Jellicoe was mindful of the strategic underpinnings of the British and German strategies, and consistently refused to be "drawn."[23] The Royal Navy and the public might feel frustration at their inability to destroy the High Seas Fleet in a decisive battle, but they were able to successfully obtain their strategic aim which was to prevent the German Navy from interfering with their trade or military operations. The German strategy was completely stymied, and there was little hope of finding a remedy.

Prior to the war it was assumed that international law would be adhered to under all circumstances—that neutral countries would apply pressure to those who failed to observe it. This was a misconception. The Royal Navy blockade of the North Sea exits was essentially military in origin, but because of public outcry in Britain for measures to punish Germany rapidly, the blockade took on a significant commercial aspect. The original "visit and search" programme rapidly transformed into an undeclared and illegal commercial blockade of Germany and the surrounding neutrals: "By the end of January 1915, the British government was systematically violating every rule of international law which it believed might hinder its campaign against German imports. . . . Lord [earlier Sir Edward] Grey wrote later that his guideline from 1914 to 1916 had been to secure the maximum of blockade that could be enforced without a rupture with the United States." The United States put very little pressure on Britain to cease her violations, preferring to handle the issue through quiet diplomacy, on a case-by-case basis, when American ships were detained.[24]

The Germans attempted a submarine blockade in the first unrestricted submarine warfare campaign of February-April 1915. This first attack was not feared by British leaders who were confident that the small number of German submarines was simply incapable of making a significant impression on the huge fleet of Allied and neutral shipping. It was hoped that the German campaign would actually help the Allied cause by drawing the United States into the Allied camp. "The general perception was . . . [to view] the German announcement as an opportunity rather than a threat to the Allies." Moreover, it would give Britain an excuse for further tightening of the economic sanctions against Germany. On 18 February 1915, "the Government made the final decision to proceed with an all-out campaign of economic strangulation" against Germany.[25]

As predicted by the British, the campaign was a failure in terms of economic warfare, and it did much to harm relations between the United States and

Germany. The British believed they were in a strong diplomatic position and rejected an American mediation effort in February 1915 that would have ceased submarine warfare against commerce in return for the termination of Britain's illegal blockade of food for civilians.[26] The loss of American lives during attacks without warning on British passenger ships such as the *Lusitania* and the *Arabic*, and the injury of Americans in the attack on the ferry *Sussex*, brought strong protests from the United States. Faced with what amounted to an ultimatum from the United States, the Germans ceased unrestricted operations in waters where the United States was likely to be offended. This further demonstrated the accuracy of prewar observations on the limitations of the *guerre de course*.

The British, however, continued the increased restrictions they had imposed in retaliation for the submarine campaign, and there continued to be no effective protest from Washington. The favouritism thus shown by the United States toward Britain "undermined the entire system of international relations which had dominated Western civilization since the use of the nation-state. The old system had drawn a clear distinction between belligerents and neutrals, and had defined certain rights and duties for each. The American failure to fulfill the obligations of neutrality was a primary factor in the disintegration of this distinction."[27] By mid-1915, therefore, "the United States was no longer entitled to the legal status of 'neutral,' " thereby removing one of the last obstacles to the complete rejection of international law that eventually would take place in 1917.[28]

By the end of 1916, six months after the Battle of Jutland, it was apparent to Jellicoe that the likelihood of meeting the High Seas Fleet and decisively defeating it was improbable. It was also equally apparent that the focus of the war was shifting from the surface to the subsurface. New German long-range submarines were beginning to take a serious toll of British shipping in the Western Approaches because they were able to operate farther west than the British were able to patrol effectively, and because they were beginning to ignore many of the restrictions of international law.[29] Jellicoe correctly predicted that the danger would increase over time, and that a major immediate effort against the submarines was an urgent requirement. After hearing these arguments, the Cabinet decided that Jellicoe should be moved to the Admiralty as First Sea Lord to handle the submarine problem.

When Jellicoe took over the post of First Sea Lord he found there were no easy solutions. Virtually the entire fleet of small craft suitable for antisubmarine work on the open ocean was already fully employed. Unlike the situation in World War II, the Royal Navy was not able to assign the majority of its ships to escort duties. The presence of the powerful High Seas Fleet, which could choose its moment to attack, acted as a containing force for a large share of the Royal Navy. The High Seas Fleet was capable of attacking at any time of its own choosing, and with all its forces. It had been determined that the Grand

Fleet needed a minimum force of one hundred destroyers and ten destroyer leaders to screen it in action against the full High Seas Fleet. An engagement with the High Seas Fleet, whereby the Germans would be able to trade destroyer flotillas in exchange for British battleships, would be potentially disastrous. The entire British naval strategy, and therefore its entire strategy, was underpinned by the Grand Fleet's ability to counter German sorties. More than a third of British escort forces were employed in this essential task.

Jellicoe established the Anti-Submarine Division under Admiral Sir Alexander Duff to organize the means to fight the submarine, but he was aware that effective technical countermeasures to the submarine were months away, at least. The only immediately obvious solution was the expansion of the patrol system to all the threatened areas. This, however, would require that a tremendous number of vessels be redeployed from other essential duties or new vessels be built in already backlogged yards. Jellicoe also noted that there was little reason to hope that the increasing supply of various types of patrol craft already ordered would add appreciably to the resources available to directly protect trade or to attack submarines: ". . . experience shows that the completion of new destroyers and other small craft . . . under existing conditions are practically all absorbed in providing escorts for the additional transports and munitions ships which the constant increase in the army in France necessitates."[30]

There were real problems, even with the nominally defensive patrols and offensive sweeps that were part of the Admiralty antisubmarine effort. Ships that were supposed to be used for patrolling, submarine hunting, and even minesweeping were being used for the direct protection of trade. "Every single destroyer and sloop including P[atrol] boats and 4th Flotilla is hard at it at escort work and I am pestered every day to provide more transports for the East under escort. I have stuck at any more troops going out. We can't provide shipping and must face the fact."[31] On 30 December 1916, Jellicoe informed Beatty that the only force available for "offensive operations" were ten destroyers at Queenstown, and that these were also largely employed in escort work.[32]

Most writers dismiss the pre-convoy countermeasures adopted by the British as ineffective and often fundamentally unsound or, at least, far less efficient than convoying. Unfortunately the Admiralty was unable to determine the effectiveness of the defensive patrol and escort system they had established in the approach routes to the British Isles, but given their success in protecting the cross-Channel traffic, they perceived that such a system would be possible given enough ships to carry it out. And this Channel wartime traffic was huge by any standard: 24,000,000 personnel movements; 3,221,992 sick and wounded evacuated; 2,400,000 animals and 553,829 vehicles transported; 49,000,000 tons of stores (or 90,000 tons/diem in late war years), all transported without loss through what Admiral W.S. Sims of the U.S. Navy called an "immune zone" established

by the Royal Navy.[33] The effectiveness of this patrol and escort system was proved daily.

Early in office as First Sea Lord, Jellicoe began to see the crisis as a general strategic problem in British commitments to the provision and protection of shipping: "The shipping situation is by far the most serious question of the day. I almost fear it is nearly too late to retrieve it. Drastic measures should have been taken months ago to stop unnecessary imports, ration the country and build ships. All is being started now, but as I said it is nearly if not quite too late."[34] Jellicoe analysed the British commitments for transport work and concluded that they were heavily overcommitted to France, Russia and Italy as well as British forces overseas.[35] His analysis must have closely paralleled that of the Germans who had calculated that they would be able to force Britain out of the war in five months if unrestricted submarine warfare were resumed. The pro-British neutrality of the United States was apparent to the Germans, but they were convinced they could win the war before the United States could effectively join the battle.[36]

Aware that the Germans were planning to commence their second campaign of unrestricted submarine warfare on 1 February, Jellicoe was not optimistic.[37] The existing shipping crisis was being aggravated by Italian and French demands for more resources and there was the prospect of a considerable rise in the rate of shipping losses. By the third week of the unrestricted campaign, Jellicoe was strongly pushing the only immediately effective means he could find: reduction of British transport and escort commitments.

Jellicoe clearly viewed the Western Front as the central theatre. He believed that the blockade was a source of difficulty for the Central powers, and the decisive blow that would defeat the German army would be dealt in the land fighting. With this in mind, and apparently influenced by similar pronouncements from senior army sources, he regarded the peripheral operations as wasteful "sideshows." He informed Beatty that he believed the blockade was useful, but that it would not be decisive, and that the only decisive theatre was the Western Front where the German army would have to be defeated.[38] With this in mind he called for "an immediate reconsideration of the general strategy of the Allies" in the shape of "a radical change in the policy with regard to the overseas expeditionary force." He felt that the only practicable method was to reduce British "commitments for the supply of the various expeditions in Salonika, Egypt, East Africa and Mesopotamia."[39] His recommendations can be interpreted as an attempt to maintain the central strategic aim of the war within the seemingly unalterable limited means to carry out the naval war. A community of strategic thought that had unfolded between the heads of the army and navy was that defeating the German army on the Western Front was the central military aim. Strangely, Jellicoe does not seem to have gained support in the War Cabinet from the army. The army had lost no troops and little materiel

in the cross-Channel shuttle, and therefore did not directly feel the weight of the submarine blockade. They were content to allow Jellicoe to champion a cause which was potentially unpopular with the government.

Jellicoe's remedy for the strategic threat which he determined might soon compromise Britain's ability to carry on fighting for more than a few months was "repeatedly and finally almost desperately" urged by him "at those meetings of the War Cabinet which he was invited to attend." Jellicoe "lacked the oratorical and debating skill[s] to match the practised speakers among whom he sat," and the "sideshows" at Salonika, Mesopotamia and East Africa were destined to remain in place for Jellicoe's tenure.[40] Ultimately, the government did not alter the strategic dispositions of the army, and the navy was forced to adopt trade protection measures at the expense of its other duties.

As the German submarine campaign began to take full effect, pressure on the Admiralty was increased to do something about the sinkings, and among the more popular measures suggested was convoying. The situation had changed dramatically from that attending the first submarine campaign. It was apparent that the Germans were confident that Britain would rapidly withdraw from the war. It was equally apparent that the Germans believed the United States would *not* enter the war and, therefore, the last "prop" supporting international law had collapsed. The size of the German submarine fleet had greatly increased, and the British command of the sea was easily evaded by the submarines: "So far as the protection of trade was concerned, the effect therefore of the submarine campaign had been to remove the barrier established by the Grand Fleet and to transfer operations to the focal areas and approach routes."[41] It appeared that the Germans would be able to attempt a sustained strategical operation against trade, and all measures that could be used to fight this, including convoy, were under consideration at the Admiralty.

Convoying has one central characteristic around which its advantages and disadvantages revolve: concentration of shipping. One inherent advantage in concentration is the increased potential for the convoy to evade detection at the tactical level: the submarine searching for prey patrols more or less at random, hoping to pass within the circle that allows visibility of a potential victim. Ships that are packed densely together in convoy have the effect of overlapping their circles of visibility, thereby reducing the total area of the ocean in which a submarine can sight a ship. It was widely surmised, however, that this benefit to the convoys was largely or completely nullified under modern conditions which made it difficult to gather and sail secretly, especially when homeward-bound convoys would have to assemble in or near neutral territories. Knowing the departure point and sailing time, the destination and the approximate speed of the convoy, would enable an enemy to deduce the rough position of the convoy at any time. The large pall of smoke created by a group of coal-burning ships in convoy would allow a raider positioned near the convoy's projected route to

sight the smoke at a considerable distance. This cannot be dismissed; it was on this principle that the World War II "wolf pack" system operated and it was this principle that the Germans fortunately failed to appreciate and to act on in the First World War.

An inescapable fact of convoying is that no matter how well-routed or veiled in secrecy the convoy might be, there remains the possibility that it will be sighted and attacked by a patrolling enemy, and therefore must be protected by an escorting force. The convoy without escort may be more difficult to find, but if found, it is a vulnerable target. Richmond noted that "the principle governing the strength of the escort is simple to define though not always simple to apply. At all stages of the voyage the escort must be strong enough, and in suitable character, to meet whatever attack it is reasonable to expect."[42] In the context of 1917, this meant that convoys on the open ocean had to be protected from attack by the surface raiders that periodically escaped the blockade, and they had to have protection from submarine attack as they came within about 300-400 miles of the British Isles. Convoys in the North Sea were also liable to attack from German squadrons, right up to the full High Seas Fleet.

The scale of protection required to effectively screen ships from submarines was unknown, but a ratio of six destroyers to eight-twelve merchantmen sailing in a tight formation was thought reasonable, although some authorities believed that as many as two or three destroyers per ship would be needed for truly effective protection. To screen convoys from surface raiders, who were generally armed merchantmen, each convoy would require a cruiser. At any rate, reasonable contemporary opinion held that considerable forces would be required to institute a system of convoys. As we have seen, such forces were already spread very thinly by the beginning of the submarine campaign.

With all resources fully employed, and fearful that attempting new measures might worsen the situation, Jellicoe found himself in a difficult position. The introduction of convoy "would mean immediately cutting down the tonnage 15 to 20 percent because of the time which would be consumed in assembling the ships and awaiting escorts and in the slower average speed which they could make."[43] This represented a serious reduction of imports in an already overtaxed system and undoubtedly caused considerable trepidation: "When tonnage is already short any proposal which must reduce its efficiency has to be carefully examined."[44] Lloyd George pointed out that the sailing delays and routing changes imposed by the Admiralty's defensive scheme had an even greater cost: "It was calculated that during the end of 1916 and the early months of 1917, the Germans had established an efficient outward blockade . . . equivalent to 40 percent of the days in a year."[45] This information was not, however, available to the Admiralty at the time.

The Admiralty was also concerned that a reduction in patrols would make non-convoyed shipping even more vulnerable. It is generally held that such

patrolling is inefficient, or even based on a fallacy, but as we have seen, the Admiralty was aware that with enough ships, intensive patrolling did work. Therefore, they reasoned, a reduced number of ships patrolling would raise the risks to unconvoyed ships.

As for the convoys, the Admiralty also feared they would present large and vulnerable targets for torpedo-firing submarines. It was thought that the submarine could "brown" a convoy—fire his torpedoes at long range, with little risk, and still have a reasonable chance of striking one or more of the ships in the convoy. This turned out to be an unfounded fear, as few convoys were attacked by German submarines. This does not suggest that the Admiralty's concern was unreasonable. The single recorded wolf-pack-type concentration of submarines against convoys in May 1918 scored at least one successful browning of a convoy (the sinking of the *Scholar* in convoy HG 75 by U 55), and browning was probably responsible for many of the losses to convoys.[46] The German failure to locate convoys and concentrate submarines against them limited the opportunities to test browning.

The fear that the merchant crews would not be capable of keeping their ships in the close formation necessary for effective antisubmarine screening impeded the establishment of the convoy system. This was not due to the navy's lack of confidence in the capabilities of their civil counterparts, but rather to the firm opinion held by the majority of the civilian masters themselves. A meeting of ten merchant masters that was called by the Admiralty in February produced unanimous disapproval.[47] Admiral Sims quoted Jellicoe: "The merchantmen themselves are the chief obstacle to the convoy."[48] Jellicoe proposed a convoy of eight ships in two columns with 500 yards between ships, escorted by warships. The merchantmen replied that it was "absolutely impossible. . . . Two might do it but three would be too many." Sims personally canvassed other merchant masters who echoed this opinion. "I do not believe," he wrote, "that British naval officers came in contact with a single merchant master who favoured convoy at that time." The masters' attitude "simply resulted from their sincere conviction that the convoy systems would entail greater shipping losses than were then being inflicted by the German submarines." Fortunately, "the attitude of the merchant marine had not entirely eliminated the convoy from consideration. At the time I arrived the proposal was still being discussed; the rate at which the Germans were striking merchantmen made this inevitable."[49]

Clearly, the Admiralty was primarily concerned with such practical considerations and was not merely rationalizing their misconceptions or doctrinal fetishes. This is made markedly apparent by the fact that the Admiralty had instituted convoys in various forms well prior to the height of the crisis, and even before Lloyd George was the Prime Minister. The trade between Britain and the Netherlands had been sailing under escort of twelve Harwich Force destroyers on a schedule of every four days since 1915, although these convoys were much

more loosely organized than would be the requirement for an effective ocean convoy. France's coal trade had been brought under a "protected sailing" system in March 1917, and April brought protected sailings to the Scandinavian trade. These were actually weakly protected, scattered convoys on brief trips in areas which were in the immediate vicinity of substantial forces such as the Harwich patrol, the Channel protected zone, or the Scapa Flow Grand Fleet flotillas. The coal trade was mostly escorted by weak trawlers, and the "protection afforded was therefore more apparent than real, but even so the results had been very good in reducing the losses by submarine attack."[50]

Without an effective shipping control system, there was no information available on the exact number of trade vessels calling on various ports in Britain. The Admiralty had compared the total number of calls of all ships in all ports, to the number of ships sunk, as an instrument for minimizing the serious impact of shipping losses on overseas trade. No one at the Admiralty attempted to determine the actual size of the proposed shipping trade to be convoyed—it simply was assumed to be a huge number. This was not an example of being deceived by one's own propaganda, but simply ignorance of the problem's magnitude. Much has been made of this ignorance by Lloyd George[51] and others, but it seems likely that the statistics were collated only as a result of the investigation of trade protection by Admiral Duff's new Anti-Submarine Division at the Admiralty.

The accumulation of shipping statistics was hampered by the secretive character of British shipping authorities[52] and by the War Risks Insurance system used so effectively by the government to prevent a panic in the face of cruiser warfare. The War Risks Insurance scheme achieved its aim to keep shipping running while under the threat of commerce raiders, and later the submarine threat, but it also removed the need to collect actuarial information on the relative safety of various routes and methods of defence. There was, therefore, no system to evaluate the relative effectiveness of the various means of defence against the submarine attacks and to disseminate this information to ship owners and masters—or the Admiralty either.

The government's attempt to control all shipping resulted in the establishment of a registry of shipping at the Ministry of Shipping. The Ministry of Shipping was only beginning to fully operate in April 1917, but its registry, which duplicated the peacetime Lloyd's registry for all shipping that entered or left British ports, brought to light vital information. It was discovered that the volume of shipping to be protected in the approaches to Britain was of manageable size. Commander Reginald Henderson, the officer responsible for organizing the coal convoys, became aware of this information and reported it to his superior, Admiral Duff.[53]

Admiral Duff informed Jellicoe not later than 25 April that a plan for convoying homeward-bound Atlantic trade was being prepared and Jellicoe

accepted an outline plan on 26 April. Duff's plan took into account the new figures from the Shipping Controller's representative to the Admiralty, Norman Leslie, and expressed the hope that the convoy system would provide at least some temporary relief until such time when the Germans were able to develop a countermeasure.[54] Commander Henderson was more specific: "[I]f convoys could be put into being forthwith, it would probably take Germany three months to discover the best methods of locating and attacking, during which period we should have further time for thought and for construction."[55]

On 27 April, Jellicoe made another impassioned appeal for a reduction in the lines of communication that the navy was expected to protect, this time emphasizing that it was necessary if the number of vessels required to institute the convoy system was to be available.[56] He was clearly attempting to win his case by impressing those around him with the seriousness of the shipping situation. This tactic was highly successful with the Americans who tailored their contribution to Jellicoe's requirements despite a strong anticonvoy belief in the U.S. Navy, even after the convoy system had been operating successfully for some time.[57] Jellicoe wrote Beatty: "I hope to get a good deal out of U.S.A. Sims [Rear Admiral] has arrived here. . . . I am telling him the situation frankly as it is necessary to let the U.S.A. realize that we want help *at once*, in small craft and shipping. I hope to get a big lot of destroyers over here very soon."[58]

The Admiralty decided that they would attempt convoying when it became apparent that it was possible, and when even serious losses from convoys (i.e., three from each) would be no worse than the losses currently mounting for April. The French coal trade and Scandinavian convoys had demonstrated that effective escort forces could be minimal in size. U.S. entry into the war eliminated the last major overseas neutral supplying Germany, promising a reduction of forces needed to enforce the blockade. The release of the armed merchantmen from the Northern Patrol provided both ocean escorts for convoys against surface raiders, and additional merchant tonnage as well, but the U.S. Navy had something of even greater importance: "There was, however, still one really serious impediment to adopting this convoy system and that was that the number of destroyers available was insufficient. I do not wish to say that the convoy would not have been established had we not sent destroyers for that purpose, yet I do not see how otherwise it could have been established in any complete and systematic way at such an early date. . . . The Allied chiefs now realized, for the first time, that the problem was not an insoluable one."[59]

An experimental convoy from Gibraltar arrived in Britain on 20 May, dispelling any lingering doubts that it could be done. The following day a general system of convoying was approved for implementation as escort vessels became available. The implementation was a gradual process that did not turn the shipping loss rate around until the end of the summer. There was no "immediate and obvious transformation. The situation remained critical until after August

1917, and the problem of finding sufficient escort vessels continued well into the following year, despite the building programmes that were pressed forward in both Britain and the United States."[60] Nonetheless, shipping losses declined steadily for the rest of the war. The solution to the submarine attack on trade had been found.

The strategic situation in 1917 was in delicate balance. Lack of planning and organization to mobilize for a total war had left Britain seriously overcommitted in manpower, resources, shipping, skilled labour, finances, and agriculture. A lack of consensus or even continuity in strategy and war aims had allowed her to become involved in both a continental war and a form of her traditional maritime strategy of peripheral attacks. A fear of the hardships, such as rationing and shortages that are associated with an extended conflict, led to continued "short-war thinking," even as a "long war" evolved. Lloyd George had inherited this chaotic situation, but was optimistic and determined to carry on the war to a successful conclusion. Jellicoe's dire predictions did not serve him well with Lloyd George and the Cabinet. Jellicoe was unable to conceal his impatience with the debates in the War Cabinet which, when combined with his dire forecasts, "contributed to prejudice ministers against him."[61]

Clark Reynolds implies that Jellicoe was dismissed because he was "never very keen on convoy," but this is simply unfounded.[62] Jellicoe criticized the amateurs who were unaware of the complexities and commitments of the naval forces and who thought they had easy solutions. He was not in the least shy in pointing out the problems inherent in the adoption of the convoy system—but surely this was to be his responsibility. Jellicoe's failures can be attributed to his refusal to adapt to the style of Lloyd George, and to his inability to win points in the Cabinet. (He sensed that he had incurred the dislike of the Prime Minister as early as June, and correctly guessed that there was a move afoot to have him replaced because of his "pessimistic" predictions.)[63] His lack of political ability and the personal dislike of the Prime Minister, combined with the public outcry over a lack of naval offensives, are far more likely causes of his eventual dismissal than lingering doubts about convoying.[64]

Marder's thesis that the Admiralty had a poor staff organization, dominated by officers "wedded" to outdated and ineffective principles or simply uneducated in strategy and tactics is a reasonable generalization, but it may not be relevant to the analysis of the submarine crisis. It was, after all, the Admiralty staff that conceived of, approved, tested, and implemented the modern antisubmarine convoy system in the face of a major naval and political crisis during the first four months of the first effective commercial blockade ever conducted by submarines. They did this with the additional handicaps of an unorganized and overcommitted economy and war effort. It is difficult to envision areas where a better educated or more organized staff would have substantially improved the response, except in the area of collection and analysis of operational statistics.

Given the crisis of overcommitment in British civil and military resources generally, the reallocation of resources to convoying was quite dramatic.

The German assumption that U.S. entry into the war would be too late, and Britain would be defeated, or at least compelled to leave the war in five or six months, was a grave strategic miscalculation. The loss of British and neutral carrying power in 1917 to the submarines was more than offset by the rationalization of import regulations and the increased use of British and French domestic resources instead of imported goods.[65] As Jellicoe was desperately trying to point out to his colleagues, there was a tremendous reserve of shipping and naval forces supplying and protecting Britain's major overseas operations in Salonika, Mesopotamia and East Africa. These three operations used 333 merchant ships, in aggregate over one and a half million tons of shipping. Moreover, these transports, that were necessarily escorted for most or all of their journeys because of their military value, represented a large reserve of escort vessels.[66] This shipping alone could have compensated for the losses of the "crisis" period of 1917. It was estimated in early 1917 that rationalization and central control of British railways could greatly facilitate ship loading and unloading with an "estimated saving in tonnage of 4,000,000 or 5,000,000 tons per annum."[67] These figures demonstrate that the British war economy had not yet been effectively mobilized and that the Germans had badly underestimated Britain's capacity for expansion.

The Admiralty's handling of the convoy question was, like other pre-war and early-war policies on naval strategy, "neither stupid nor careless. Their decisions were thoroughly considered, based on the best professional advice available, and justified by what seemed at the time excellent reasons."[68] Jellicoe wrote in response to Lloyd George's *War Memoirs*: "Wisdom distilled from events which were unforeseeable should find expression not in criticisms of those who did their duty to the best of their ability, but in the taking of wise precautions for the future."[69]

With Jellicoe's exhortation in mind, there are useful generalizations that can be drawn from the history of the convoy decision. First, there seems to be no form of technology that cannot be countered. Corbett failed to heed his own warning that there "is no part of strategy where historical deduction is more difficult or more liable to error" than that related to the material aspects of war.[70] Within five years after publication of his book, weaker naval powers were able to attempt sustained strategical operations against trade with diesel-powered submarines with ranges that put them much closer to the old sailing cruisers than to their surface contemporaries, and that could pass, unimpeded, through a military blockade. Perhaps even more important for strategic thinkers than the undermining of strategies by new technology is the opposite process. The War Risks Insurance scheme, convoying, the altered strategic distribution of forces advocated by Jellicoe, the rationalization of the importation system from import

controls to railway organization—all are examples of strategic or doctrinal changes to the developing war of commerce destruction.

A second observation is that the *guerre de course* is only one form of commerce warfare. The second German submarine campaign, which formed an effective form of blockade until the introduction of convoying, was not reliant upon the psychological impact of attack, but on the material effect of the destruction of Britain's capacity to transport the material necessary for her war effort. The British blockade was, on the other hand, doubly effective in that it not only prevented the flow of goods to Germany, but diverted many of those goods to the Allies. This war of shipping diversion was of "crucial importance in allowing Britain to continue fighting."[71] Commerce warfare in general should seek to disrupt the import system of the enemy, while concurrently enhancing one's own position if possible.

It would be a mistake to conclude that a lesson learned from the First World War is that convoying is an inherently good general strategy. First, convoying is not a strategy. It is a tactical formation within a system of naval control of shipping, a formation with qualities that can be either good or bad, depending on the situation. Second, the success of the convoys in WW I must in part be ascribed to the fact that the Germans consistently neglected to attack on the tactical level, or to disrupt the British effort at the strategic level by using the powerful German surface forces to occupy the British surface forces that were so critical to the success of the convoy system. Finally, many of the Admiralty's concerns over the implementation of convoys were probably well-grounded. Convoying should not, therefore, be adopted reflexively as *the* method of controlling and protecting commerce without a critical examination of the potential costs and benefits at all levels, from the tactical to the grand-strategic. Measures to control and protect import systems should always be taken, but the form of these measures is not an iron law.

It is evident that international law provides a weak foundation for strategy. The effectiveness of international law seems to rely entirely on influential neutrals who are willing to referee. The United States' failure to enforce her neutral rights in the face of British violations gradually led to a lack of constraints on the belligerents. With the modern tendency toward coalition warfare, there is the real possibility that in future major wars there will not be a neutral powerful enough to constrain belligerents within the limits of international law. Like technology, the limits of acceptable behaviour can change through evolution and through revolution; and the impact of these constraints on strategy must be continually reevaluated.

The most important lesson may be that practical application of naval strategies and tactics are deeply influenced by the means available. Although the necessary measures that were carefully analysed and prepared for the protection of trade did work as expected during the first two years of the First World War, abruptly,

they became useless when doctrine and submarine technology changed. At the same time, the general strategies of the two battle fleets remained remarkably stable, captured in a sense by the limits of their doctrine and technology which could change only slowly. The trade protection dilemma of 1917 should sound a warning to naval strategists of today: Factors such as increasingly interdependent world production systems, the rise of trucking and the consequent decline of railways, the growth in merchant ship size, to name but a few, make the control and protection of import systems more difficult, more disruptive, and more necessary. Satellite surveillance and long-range acoustic and electromagnetic detection methods, combined with the tremendous speed and endurance of modern submarines, make the localization and attack of convoys much more likely and their direct defence much more costly of limited naval resources. There is every possibility that a future Jellicoe will be faced with much the same strategic dilemma that the First Sea Lord struggled to resolve in 1917.

Notes

1. The opposing ideas in this debate are best found in the works of the two principals: David Lloyd George, *War Memoirs*, (London: Ivor Nicholson & Watson, 1934) v. 3; and John Jellicoe, *The Submarine Peril* (Toronto: Cassell & Co., 1934).

2. J.A. Marder, *From the Dreadnought to Scapa Flow*, (London: Oxford Univ. Press, 1969) v. 1-5.

3. For an entertaining popular biography of Jellicoe see: John Winton, *Jellicoe*. Winton's interpretations of naval strategy and tactics should, however, be approached with caution. Another useful biography is: Reginald Bacon, *The Life of John Rushworth, Earl Jellicoe* (London: Cassell, 1936).

4. Squadronal warfare to destroy the enemy's ability to attack shipping, focal point protection and patrolling were also common, even more common, means of trade protection.

5. Julian S. Corbett, *Some Principles of Maritime Strategy*, with introduction and notes by Eric J. Grove (Annapolis: Naval Institute Press, 1988), pp. 305-306. Originally published by Longmans, Green and Co., 1911.

6. Corbett, pp. 275-276.

7. The assumption that only a weaker power will carry out a *guerre de course* is derived from the idea that the stronger power will preveut commerce by command of the sea and will have no need to take special strategic measures to hunt down commercial shipping (Corbett, pp. 261-262). The *guerre de course* is a system of making an impact on a stronger foe while still avoiding combat. Bernard Semmel provides an excellent description of the *guerre de course* theory in *Liberalism and Naval Strategy* (Boston: Allen and Unwin, 1986), pp. 89-92. The most influential rebuttal to the *guerre de course* was, of course, A.T. Mahan's *The Influence of Sea Power upon History* (Boston: Little Brown, 1980).

8. Corbett, pp. 268-271.

9. *Ibid.*, pp. 274-275.

10. These concepts were reflected in Admiralty policy as it entered the war. See Marder, v. 1, pp. 365-366.

11. *Ibid.*, v. 1, p. 364.

12. Corbett, p. 269.

13. Marder, v. 1, p. 363.

14. The influence of these experiences on British strategy in relation to international law can he found in J.W. Coogan's *The End of Neutrality* (London: Cornell Univ. Press, 1981), ch. 2, and the Boer War incidents in particular on pp. 117-118. Britain's management of neutral rights during the Russo-Japanese War is detailed by Keith Neilson in " 'A Dangerous Game of American Poker': Britain and the Russo-Japanese War," *The Journal of Strategic Studies*, March 1989, pp. 63-87. The quote is from the latter work, citing Sir George Clarke, secretary to the Committee on Imperial Defence.

15. Corbett, p. 266.

16. Marder, v. 1, p. 373.

17. The development and effects of the insurance program are described in Martin Doughty's *Merchant Shipping and War* (London: Royal Historical Society, 1982), ch. 5.

18. Marder, v. 1, p. 367.
19. *Ibid.*, p. 373. See also, Paul Kennedy, "The Development of German Naval Operations Plans Against England, 1896-1914," *The English Historical Review*, v. LXXXIX, 1975, pp. 48-76.
20. A.T. Patterson, ed., *The Jellicoe Papers* (2 vols.) (London: Spottiswoode, Ballantyne & Co., 1966), v. 1, p. 44.
21. An effective and entertaining naval history of the opening of the First World War can be found in James Goldrick's *The King's Ships Were at Sea* (Annapolis: Naval Institute Press, 1984). Chapter 6 describes the debut of the submarine.
22. W.S. Sims, *The Victory at Sea* (New York: Doubleday, Page and Co., 1920), pp. 101-102.
23. Jellicoe to Churchill, 30 October 1914, in: A.T. Patterson, v. 1, hereafter cited as *Jellicoe Papers*.
24. J.W. Coogan, *The End of Neutrality* (London: Cornell Univ. Press, 1981), pp. 214-215.
25. *Ibid.*, pp. 222-223.
26. *Ibid.*, pp. 228-229.
27. *Ibid.*, pp. 254-255.
28. *Ibid.*, p. 235.
29. Henry Newboldt, *Naval Operations* (London: Longmans, Green and Co., 1931), v. 4, p. 242.
30. Paper drawn up by Jellicoe for the War Cabinet, 21 February 1917, *Jellicoe Papers*, v. 2.
31. Jellicoe to Beatty, 23 December 1916, *Jellicoe Papers*, v. 2.
32. Jellicoe to Beatty, 30 December 1916, *Jellicoe Papers*, v. 2.
33. Figures are from Lloyd George, p. 1207. Admiral Sims used the phrase "immune zone." See Sims, p. 111.
34. Jellicoe to Beatty, 13 December 1916, *Jellicoe Papers*, v. 2.
35. Jellicoe to Beatty, 30 December 1916, *Jellicoe Papers*, v. 2.
36. Newboldt, p. 239.
37. The British Directorate of Naval Intelligence decryption service (Room 40) had decrypted the famous Zimmerman Telegram, which also contained the news that unrestricted submarine warfare would commence on 1 February 1917. See Hugh Hoy, *40 O.B.* (London: Hutchinson and Co., 1932), pp. 38-42. Jellicoe was obviously aware of this and disclosed this news, but not the source, to Beatty. See Jellicoe to Beatty, 25 January 1917, *Jellicoe Papers*, v. 2.
38. Jellicoe to Beatty, 4 February 1917, *Jellicoe Papers*, v. 2.
39. First Lord to War Cabinet (drawn up by Jellicoe), 21 February 1917, *Jellicoe Papers*, v. 2.
40. Patterson, v. 2, p. 116.
41. Admiral Jellicoe, *The Crisis of the Naval War* (London: Cassell and Co. Ltd., 1920), p. 171.
42. H.W. Richmond, *The Navy* (London: William Hodge & Co. Ltd., 1937), p. 91.
43. Sims, p. 107.
44. *Ibid.*, p. 104.
45. Lloyd George, p. 1244.
46. Newboldt, pp. 277-284; Lloyd George, p. 1184.
47. Report of a meeting held at the Admiralty on 23 February 1917, *Jellicoe Papers*, v. 2.
48. Sims, p. 106.
49. *Ibid.*, pp. 107-108.
50. *Ibid.*, p. 110.
51. Lloyd George, pp. 1145-1147.
52. Doughty, p. 6.
53. Marder, pp. 150-151.
54. Jellicoe to Admiral Hamilton, 25 April 1917, and Duff to Jellicoe, 26 April 1917, *Jellicoe Papers*, v. 2.
55. Lloyd George, p. 1165.
56. Jellicoe to Carson, 27 April 1817, *Jellicoe Papers*, v. 2.
57. Jellicoe to Browning (Commander in Chief NA&WI), 7 July 1917, *Jellicoe Papers*, v. 2.
58. Jellicoe to Beatty, 12 April 1917, *Jellicoe Papers*, v. 2.
59. Sims, pp. 113-116.
60. Patterson, v. 2, p. 115.
61. *Ibid.*, p. 116.
62. Clark Reynolds, *Command of the Sea* (Malabar, Fla.: Robert E. Krieger, 1985), p. 468.
63. Jellicoe to Beatty, 30 June 1917, *Jellicoe Papers*, v. 2; Lord Hankey recorded that Jellicoe's bleak predictions in June had caused "great irritation" and that by 3 July Lloyd George was "hot for getting rid of Jellicoe." See Lord (earlier Sir Maurice) Hankey, *The Supreme Command 1914-1918* (London: Allen and Unwin, 1961), v. 2, pp. 654-655.
64. Patterson, v. 2, pp. 116-122.
65. Lloyd George, pp. 1247-1268.

66. First Lord to War Cabinet (drawn up by Jellicoe), 21 February 1917, *Jellicoe Papers*, v. 2.
67. Lloyd George, p. 1242.
68. Coogan, p. 239.
69. Jellicoe, *The Submarine Peril*, p. xi.
70. Corbett, p. 266.
71. Donald French, *British Strategy and War Aims 1914-1916* (London: Allen and Unwin, 1986), p. 27.

Ψ

War in all its aspects offers a continual choice of difficulties and advantages. It is in reconciliation effected among these as far as possible, in allowance of due predominance to the most important, in disregard of difficulties where practicable, that the art of the commander consists. The one most demoralizing attitude is that which demands exemption from risks, or is daunted unduly by them.

Naval Strategy
A. T. Mahan
Little, Brown (1918) p. 143

The Dragon Goes to Sea

Captain E.D. Smith, Jr., U.S. Navy

THE IDEA of China as a major maritime power has never really caught on with Western naval analysts. Some point to the lack of a naval or even a continuing seagoing tradition—others to a military history in which ships have merely been adjuncts to ground force operations. Driven by economic necessity in the 1980s, self-imposed cuts in military spending by the People's Republic of China slowed modernization of the Chinese Navy, or as the current Mandarins call it, the People's Liberation Army Navy (PLAN).

Some recent reports, however, should reawaken our interest in China's navy. The importance of a visit to Thailand by the 5,500-ton Chinese training ship, *Zheng He,* was underscored in a Beijing newspaper article last December. The article was explicit regarding the purpose of this and similar recent visits, including one by the same ship to Hawaii in March 1989: "The Chinese naval vessels' visits to other countries have given foreign countries a better idea of the Chinese Navy, expanded our military's influence in the world and exalted our Navy's image. . . . These visits have also tempered the officers and men of the navy, broadened their thinking, and contributed to the navy's modernization drive."[1]

This short article described other long-distance deployments by the People's Navy since 1984, including the Indian Ocean deployment in 1985 which included calls at ports in Pakistan, Sri Lanka and Bangladesh. It does not mention the U.S.-Chinese "Passing Exercise" that took place in the South China Sea in December 1985 as these ships returned to China.

A week later the Associated Press, reporting from Hong King, told of an article in a May 1990 publication of the PLA, entitled "Military Economic Research," which calls for a "250% increase in defense spending over the next decade." Indicating that distribution of this publication is generally restricted to the Army and the Communist Party, the AP's article states that: "Over the last

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two years, China's military has fundamentally revised its force doctrine, called 'people's war,' from a defensive to an offensive one, following improved ties with . . . the Soviet Union."[2]

These two articles suggest both that China has rediscovered the utility of sea power and that we may soon see the end to the budgetary restraints on Chinese military development. Earlier press reports support these conclusions, including one indicating China's interest in building an aircraft carrier.[3] Another is a fascinating interview with PLAN Admiral Lin Zhiye, commandant of the Dalian Naval Academy, published in the November 1989 issue of *Naval and Merchant Ships*, a magazine of the Chinese Institute of Naval Engineering in Beijing.[4]

Admiral Lin described a two-phased approach to Chinese naval developments. The first stage, carrying us to the year 2000, would include the development of a strike force consisting of land-based aircraft, diesel-driven attack submarines and surface combatants capable of helicopter operations. The second stage, extending to 2050, would include the development of strike forces centering around aircraft carriers. Each of the three Chinese fleets would have such a force, stated the admiral, with the South Sea Fleet being the first to get one. Such forces would be capable of engaging any enemy with a "decisive seaward blow."

Indicating that China was most likely to encounter economic and political conflict with other nations in the seas bordering China, he defined these as those waters located inside the "first island chain" of Japan, Okinawa, Taiwan and the Philippines. Admiral Lin's comments provide a useful background to understanding contemporary Chinese naval activities and developments.

China's interest in maritime affairs merits our scrutiny for several reasons, not least of which are the concerns of China's neighbors, especially those to the south, Indonesia, Malaysia, Vietnam, Singapore and the Philippines, all of whom have good historical reasons to fear Chinese hegemony.

The name of the training ship—the *Zheng He*—is itself a reminder of China's biggest attempt to spread her influence into the South China Sea and Indian Ocean. A Muslim eunuch who had distinguished himself in the imperial army, Zheng He was Emperor Yungli's chosen instrument in 1405 to "establish suzerainty over the peripheral southern ocean states."[5] As the senior admiral of the rapidly developing fleet during the period 1405-1433, Zheng He led seven large expeditions to distant waters through the South China Sea and into the Indian Ocean, reaching as far west as the Red Sea, the Persian Gulf and the east coast of Africa. These voyages were massive undertakings, often involving several hundred ships. The first expedition, for example, included 27,000 men aboard an estimated 317 ships.[6]

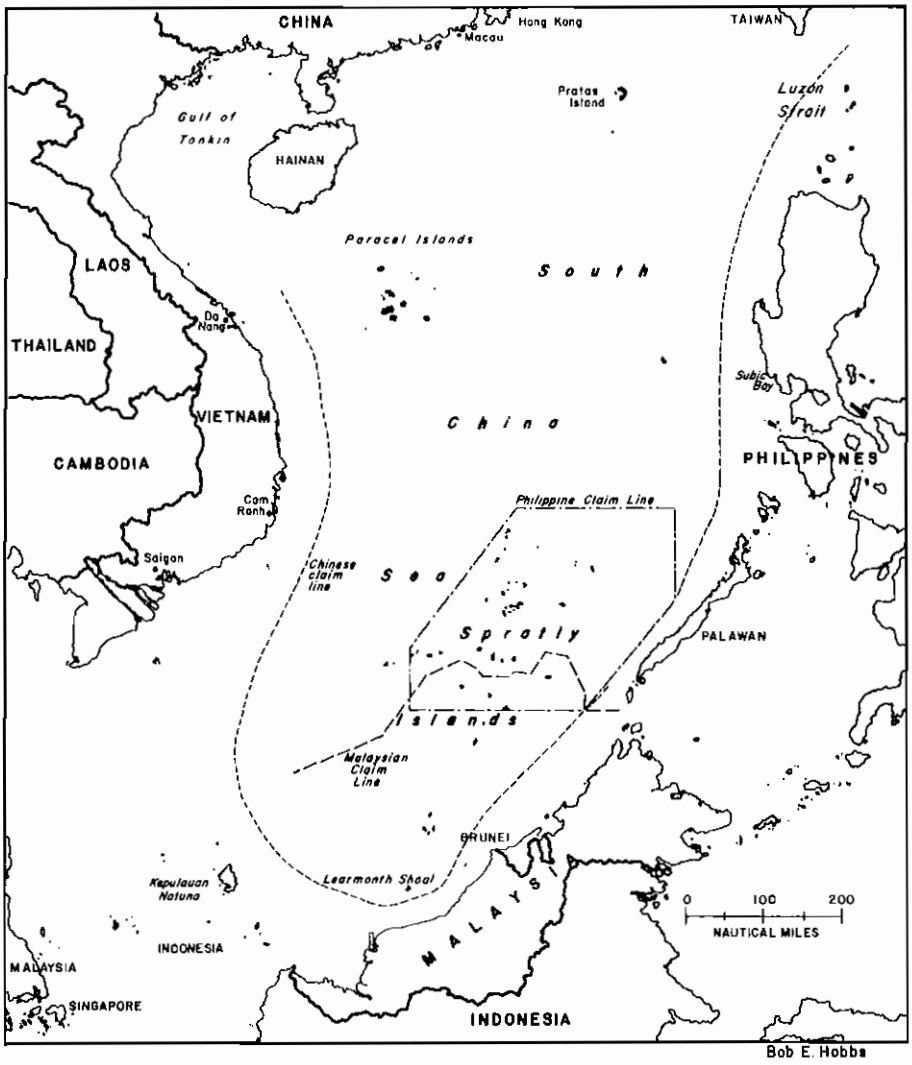
Zheng He's mission was not just that of his current namesake, to "show the flag." Zheng He was also to establish, by force if necessary, tributary relationships with the coastal states along his route. He was to ensure that those states

acknowledged their subordination to the emperor of China. Among his accomplishments on these voyages, Zheng He reportedly surveyed the Paracel and Spratly Islands in the South China Sea. Artifacts dating from his voyages and found on the Spratlys form part of the basis of China's modern territorial claims for the disputed archipelago.

On the death of Emperor Yungli, the navy declined rapidly, principally because of the reemergence of a major land threat from the Mongols. But this period of Chinese history demonstrated an understanding of the utility of sea power in pursuit of political objectives that appears to be resurgent today. China was a great maritime power in the past; it has the potential for becoming one in the future. An Asian naval analyst, Vice Admiral Ko Tunhwa of the Republic of China (or Taiwanese) Navy, has concluded that mainland China possesses all the classic elements of sea power described by Mahan, requiring only a decision by the leadership to develop it.[7] Recent events suggest that this decision may have already been made.

In assessing the meaning of a Chinese naval resurgence, it is important to understand that through the use of repressive force the People's Republic of China is still controlled by a communist party dictatorship. The revolutionary changes sweeping Eastern Europe and the Soviet Union have not been allowed to "infect" China, where a small clique of powerful party chieftains continues to decide the fate of the most populous country in the world. The waves of "democratization" which swept over the former Soviet bloc countries were reflected in China by the student-led "Democracy Movement" which the rest of the world saw decisively squelched by the army in June 1989. On the Leninist theory that history is mutable and can be changed to meet the needs of the Party, the Chinese response to Western censure was to deny that military repression occurred. They blamed mysterious "outside influences" for the "student rebellion."

Such a government, whose leaders continually reaffirm their commitment to the "Four Cardinal Principles" that include the leadership of the Chinese Communist Party and adherence to the doctrines of Mao, Marx and Lenin, would not hesitate to create a "foreign threat" and use their military to remove it, if it would help them to maintain internal control. This is a government whose ideology is unchanged by contemporary events, one which still believes that a dastardly Western strategy of "Peaceful Evolution" is really an "imperialist plot" to undermine their regime. Their distrust of the West is held in check only because they see that Chinese economic and other interests will be served by joining the international community. When Chinese interests conflict with international interests—as in the case of arms and military technology sales to such dangerous states as Libya and Iran—other countries' complaints are disregarded as "interference in Chinese internal affairs."



China's Claims in the South China Sea

In assessing the meaning of Chinese maritime developments it is important to understand that China faces no threat which would require a naval expansion. The principal military threat to China has traditionally come from "outside the wall"—in recent times, from Soviet troops along their 3,000-kilometer common border. The "threat" is being negotiated away at Soviet initiative, and without a Soviet land threat the Soviet Pacific Fleet can hardly be viewed as a danger to China proper.

China has consistently supported an American naval presence in the western Pacific as a counter to any latent Japanese "militarism" which would seem to be

the most obvious potential maritime threat to China. Japan, in the meantime, while quietly developing one of the most modern navies in the world, has publicly downplayed the idea of any expansionist goals. But the idea of a renewal of Japanese imperialism in the Asian region cannot be summarily dismissed by the Chinese, whose view of history reaches farther back than our own. Even if a military threat to China by the Japanese were considered realistic, however, adequate air and ground defenses would mitigate such a threat, without the need for a large and modern naval force. If the Japanese threat were considered to be more economic than territorial, however, a navy capable of securing China's commercial sea-lanes and protecting offshore resources would be a logical aspiration.

It is true that the history of economic exploitation of China by Western imperialist powers over the past two centuries had a strong maritime component. Those powers—England, France, Germany, Portugal and the United States—came, and eventually departed, by sea. While this argument may have made sense in 1945, contemporary alignments of military and economic power in the region make it difficult to conceive of any realistic threat from the sea that would justify the high costs of naval expansion.

Perhaps a more realistic reason for a Chinese naval resurgence was suggested in a recent article in the *PLA Daily News* which called for more awareness of China's maritime "rights," stating that "Economics is the driving force behind maritime rights, ocean territory is that which maritime rights depend upon, and maritime defense is the way in which a nation protects these rights."[8] Assessing China's traditional "defensive" maritime doctrine as "unsuitable," the article concludes that a strong navy, capable of carrying out offensive operations to gain sea control, is necessary to protect China's rightful "sea territory."

While this article discusses the need for maritime power throughout China's claimed territorial waters, whose northern boundary is in the Yellow Sea, it is to the south that the Chinese Navy seems to be focusing its attention, just as it was to the south that Zheng He voyaged to spread Chinese hegemony in the 15th century. China claims sovereignty over most of the islands in the South China Sea. Its official "Declaration on the Territorial Sea" issued in 1958 "extended China's territorial waters to the 12-mile limit and further stipulated the use of the straight baseline method to delimit the boundary . . . [this] method, if applied to connect the archipelagos, would in turn effectively enclose the entire core of the South China Sea within China's territorial sea."[9]

In 1974 China used military force to oust a small South Vietnamese garrison from the Paracel Islands, about 250 miles east-northeast of Da Nang. After North Vietnam's victory in 1975, China held on to the islands. It has, in fact, increased its military presence on the seven islands that comprise the Paracels and has constructed an airfield on Woody Island, the occupiers' administrative center for the archipelago.

Vietnam has also felt the wrath of China's maritime strength nearly 500 miles further south, in the disputed Spratly Islands, which lie just to the west of Palawan. In the spring of 1988, Chinese naval gunners sank three Vietnamese navy ships resupplying their island garrisons in the Spratlys. A contemporary Chinese comment on this event stressed China's developing "bluewater" capabilities: "The military strength of the Chinese Navy has grown rapidly since the beginning of the 1980s when the Navy became sea-going . . . the Chinese Navy has gradually revised the war principles of 'naval base,' 'guerrilla warfare,' and 'coastal actions' summed up and borrowed from past land war, and has been making exploration and preparations for offshore actions.

"The Chinese Navy paid special attention to the British experience in the battle over the Falkland Islands . . . characterized by the long-distant sail of the British Navy to the destination, and the success of the United States in attacking Libya."[10]

A recent article in a Beijing magazine describes a new "PLA Quick Reaction Unit" that has been formed to take such lessons into account. It indicates that "[i]n keeping with the development of the world political and military situation, China's relevant policy-making departments decided several years ago to build up similar [to the British SAS] quick-reaction units to tackle possible local wars and contingencies, and shoulder special duties such as kidnapping, antiterrorism, and antiviolence duties."[11]

The development of this elite ground force has been paralleled by the formation of "Rapid Combat Groups" in all three fleets of the Chinese navy: ". . . composed mainly of large and medium-sized surface vessels, so as to meet the needs of future sea battles beyond the mainland's coastal waters. The South China Sea Fleet already has a marine brigade and both the East China Sea and North China Sea fleets will also establish such a brigade in order to beef up their amphibious combat strength."[12] With the Soviet navy pulling out of Vietnam's Cam Ranh Bay and the likely drawdown of U.S. naval forces at Subic Bay, the increasing strength of China's South Sea Fleet should be cause for concern. At stake here is the security of the major sea-lanes that connect the Pacific and Indian Oceans. This point was recognized in a summer 1990 article in the *Economist* that concluded: "If the Russians and the Americans do leave a vacuum in the South China Sea, China has the will and the means to fill. . . . That could raise a ticklish problem for Japan, which has long taken for granted the openness of the sea lanes through the South China Sea. What action would it take if it looked as though they were becoming less open?"[13]

Since the naval clash with Vietnam in 1988, China has been gradually strengthening its military capabilities in the South China Sea, improving the airfield on Woody Island in the Paracel Islands (to allow for its use by high-performance military aircraft?), developing an air-to-air refueling capability

for its fighter aircraft (to be able to operate in the Spratly area?), and expanding the number and capabilities of their own island outposts in the Spratlys.

A glance at a chart shows what Chinese control of the Spratly Islands would mean to the maritime interests of the United States and our Asian friends. Naval bases capable of supporting submarines and surface combatants in the Spratlys would provide China with a capability to monitor and potentially to interdict shipping of any nationality transiting the South China Sea. Chinese maps show claims to almost the entire South China Sea. It is not only the Japanese who should be concerned about such claims, but any nation whose trade moves by ship through the region, including, for example, Taiwan.

That China is intent on eventually enforcing her territorial claims to these islands (along with concomitant exclusive economic rights to the exploitation of resources in this widespread area) seems self-evident. The Chinese navy has repeatedly demonstrated an ability to send superior forces to the area on short notice and the South Sea Fleet alone has over 600 ships, craft, and submarines. These forces are more than a match for the naval capabilities of any of the other claimants to these islands, such as Vietnam or the Philippines. The key question is when China will begin to enforce these claims. Beijing appears to be biding its time, perhaps until it has developed a long-range air capability to support its surface ship operations in the area.

Other claimants to various parts of the Spratlys, most recently Indonesia, have proposed multilateral talks on territorial disputes in the South China Sea. While China has refused to participate in any discussions which address the sovereignty issue, diplomatic efforts at finding ways to resolve these disputes peacefully are likely to increase as many countries' economic desires to exploit potential offshore resources in the Spratly area grow. China may accede to joint development ventures, but is unlikely to change its territorial claims. At any rate, the only rival claimant to the archipelago that China takes seriously appears to be Vietnam. China's sensitivity to the continued Vietnamese presence in the islands was underscored by a statement by a Foreign Ministry official on 27 December 1990 which concluded that "The Vietnamese must withdraw from the islands and reefs of China's Nansha [Spratlys] Islands which it has illegally occupied."[14]

While economic problems may limit Chinese naval development in the next few years, it appears clear that China's long-range goals include an expansion of influence and control into the South China Sea. As one analyst put it: ". . . the meaning of the contest for the South China Sea is most fundamentally an issue centered on the changing role of China as a Coastal State and maritime power in Asia."[15] A continued withdrawal of both Soviet and American naval forces from this area will invite Chinese regional hegemony enforced by a resurgent navy.

The voyages of Zheng He show that China was a major maritime power in the past; current trends indicate that it aspires to become one again. Such a

resurgence should be of concern to any nation which relies on Asian sea lines of communication.

Notes

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15. Samuels, p. xii.

Ψ

The interests of nations in the sea are almost wholly interests of trade—of carriage. The productions of the sea, though valuable, are trifling in amount as compared with those of the land. Its great value to mankind is that it furnishes the most copious means of communication and traffic between peoples; often the only means.

Naval Strategy
A. T. Mahan
Little, Brown (1918), p. 303

America's Maritime Boundary With the Soviet Union

John H. McNeill

DURING LAST YEAR'S Washington Summit meetings between President Bush and Soviet President Gorbachev, a historic agreement was signed by which, for the first time, the United States and the Soviet Union registered their mutual accord on a maritime boundary.[1]

This new agreement was signed on 1 June 1990 by Secretary of State Baker and Soviet Foreign Minister Shevardnadze, and both signatories have been fully applying its provisions since 15 June 1990.[2]

Accordingly, the two nations have now established a maritime boundary for all purposes. The new boundary extends from the North Pacific Ocean through the Bering Sea and Straits into the Chukchi Sea, and terminates in the Arctic Ocean after traversing a distance of some 1,800 nautical miles, making this the world's longest maritime border.[3]

The successful conclusion of negotiations between the two parties was roughly contemporaneous with the widening of contacts and cooperation between them in the region; examples of this are the recent agreement on cooperation in maritime search and rescue, the agreement establishing a Joint Regional Commission for the Bering Straits area, and the agreement concerning mutual visits by inhabitants of the Bering Straits region.[4] However, the maritime boundary agreement, unlike the others, was brought to fruition as the result of discussions between the neighboring governments that began almost ten years ago—during the difficult years of the Brezhnev era.

As every American schoolchild knows, Alaska was purchased by the United States from Czar Alexander II in 1867. "Seward's Folly," as the $7,200,000 acquisition was once derisively known, has long since been recognized as a remarkable coup by the United States. What is not often remembered, however, is that the 1867 Convention of Cession itself contained no provisions relating

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to establishment of a boundary *per se*. Instead, that agreement explicitly provided only for the cession by Russia to the United States of all territory and dominion possessed by the Czar "on the continent of America and in the adjacent islands," and specifically established geographical limits solely with respect to the territory ceded.[5]

Even though the western limit of Alaska as defined in the 1867 Convention was not clearly identified as a boundary line, at least one authoritative commentator so described it just after the turn of the century;[6] at a minimum, it certainly performed the pragmatic function of a line of allocation, a cartographic device used to simplify description of the territory conveyed: i.e., Russia ceded to the United States everything it had east of the line and nothing west of the line.[7] Since in 1867 the concept of dominion over adjacent continental shelf and seas beyond one marine league from the appurtenant coast was not recognized by international law, it is not surprising that no provision for a maritime boundary was made in the original Convention of Cession.

During the ensuing years, and especially in recent decades, the line of allocation came, perhaps inevitably, to be understood by many as the practical equivalent of a boundary, i.e., as a line of division for maritime jurisdiction as well as land territory. Indeed, by the time the negotiations leading to the recent agreement were underway, the U.S. had come to regard the 1867 Convention line as the maritime boundary, and with respect to fisheries matters sought Soviet agreement to this position.[8] Prior to the 1970s, the question of whether there existed a maritime boundary was principally of theoretical significance, since up to that time both the U.S. and U.S.S.R. had claimed only the customary three nautical mile territorial sea (with twelve nautical mile fishing jurisdiction from 1964), and the U.S.S.R. had claimed territorial sea out to twelve nautical miles. But in that decade, following the lengthy negotiations which resulted in the 1982 United Nations Convention on the Law of the Sea, the world community recognized as a new principle of international law the concept of the Exclusive Economic Zone (EEZ). The Soviet Union initiated the regulation of a two hundred nautical mile fisheries zone in 1978 (and of its EEZ in 1976, pursuant to which it assumed the right to regulate fishing, marine scientific research, marine pollution, and certain other activities within its zone, which extends seaward as far as two hundred nautical miles beyond its territorial sea). The United States established a two hundred nautical mile fisheries management zone in 1977 (declaring its EEZ in 1983, and its own twelve nautical mile territorial sea in 1988). As a result of both nations having established these opposed fisheries regimes, it became evident that in a number of places the zone claimed by one side overlapped that claimed by the other. Consequently, the two governments agreed to discuss the exact location of the 1867 line. Thus, it was the immediate problem of fisheries enforcement that led in the late 1970s to the convening of negotiations which ultimately resulted in the 1990 Agreement on the Maritime Boundary.[9]

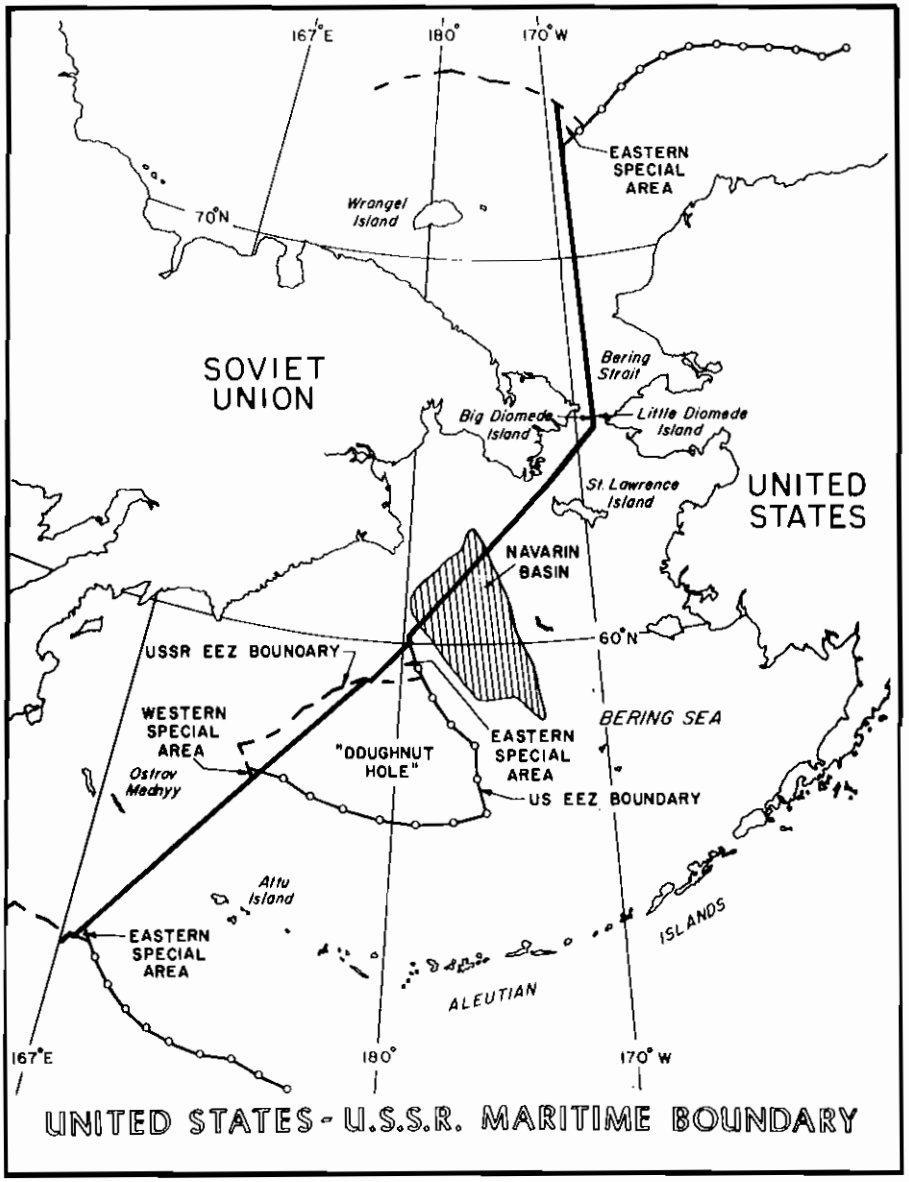
Early in these discussions it became apparent that the two sides had traditionally employed different cartographic techniques to depict the 1867 Convention line. U.S. practice had been to use orthodromic lines, arcs of great circles (which best approximate the shortest distance between points on the surface of the earth). Orthodromic lines appear straight on a conic projection of the Earth. Conversely, Soviet practice had been to use the rhumb line, or loxodromic curve, which is a line of constant compass bearing that appears straight on a mercator projection. In addition to these technical differences, there was disagreement over the geographic location of one of the points described in the 1867 Convention that is a basis of reference for drawing the Convention line. These differences resulted in assertions by each side that a certain chord-shaped area in the Bering Sea covering some 18,000 square nautical miles of ocean was on *its* side of the Convention line.[10]

As a predictable result of these overlaps, the fisheries authorities of both governments became involved, attempting to enforce their respective regulatory regimes throughout the entirety of what they conceived to be their own EEZ—including overlap areas. Indeed, some portions of the Soviet EEZ extended across the 1867 line, although it had appeared in 1977 that both sides were intending to use that line as the outer limit of their respective fisheries enforcement jurisdiction, at least with regard to areas lying within two hundred nautical miles of both sides' coasts.[11]

Tensions were inevitably created, an example of which is an incident in August 1986. At that time, two Soviet ships threatened and tried to stop the Seattle-based fishing boats *Katie K* and *Aleutian Mariner* in the Bering Sea, in an area of EEZ overlap some 160 miles west of St. Matthew Island. The two U.S.-flag vessels fled the area, which contains rich Tanner crab fishing grounds, leaving behind expensive gear including some 150 crab pots worth perhaps $45,000; they were followed by the Soviet vessels for a reported one hour and forty minutes before the chase ended. In response, the 378-foot U.S. Coast Guard cutter *Midgett*—armed with two .50 caliber machine guns, a bow-mounted five-inch gun, and carrying an HH-52 helicopter—was assigned to reenter the disputed area and escort the *Katie K* and *Aleutian Mariner* back to collect their equipment, a task accomplished without further trouble.[12]

Several confrontations of this kind have occurred in recent years and threatened to become serious irritants in the relationship between the U.S. and U.S.S.R. Now, however, both sides have agreed on a fundamentally logical basis for fishing rights and responsibilities in the area. This represents a welcome advance, and reinforces the progress reflected in the recent Governing International Fishery Agreement signed by the two governments on 22 June 1988 and approved by Act of Congress later the same year.[13]

Separate issues are generated by the existence of an area of high seas in the central Bering Sea that is literally surrounded by the EEZs of the United States



DMC JOHN MOHILA

and Soviet Union but is included in neither, and is known as the "Doughnut Hole." This area, in the heart of the world's most productive fishing grounds, contains vast but declining stocks of valuable bottomfish, especially pollock. The annual pollock yield of the Doughnut Hole, two million metric tons, is equal to that from U.S. Bering Sea EEZ waters in their entirety.[14] The degree to which coastal states may protect migratory species such as pollock from third-party

fishing on the high seas—such as by Japan and Poland in the Doughnut Hole—is as yet unresolved as a matter of international law.[15]

Another important factor for both governments was the need to delimit clearly those areas of their respective continental shelves lying beyond two hundred nautical miles from the coasts of either of them. The continental shelf in the Bering sea is the largest such area on Earth, and in addition to being unusually rich in crab and shellfish is also believed to be a potentially important area for hydrocarbon exploitation.

One region of the Bering Sea continental shelf is of particular note and can serve to illustrate the complications for hydrocarbon exploration that have been generated by the boundary dispute: the Navarin Basin of the Bering Sea, a continental shelf zone roughly the size of Ohio. Lying some 250-300 miles off the Alaskan coast, it contains an EEZ overlap area roughly twenty-five miles wide and 225 miles long. This previously disputed zone lies on the western side of a 43,000 square-mile tract believed to contain significant oil and gas deposits. Water depths in the area range from 230 to 7,900 feet, although most of the shelf lies under less than six hundred feet of water.[16]

In March 1984, interest in the hydrocarbon potential of the basin was heightened by the discovery of a plume of natural gas spewing from the ocean floor almost in the middle of the then-disputed western portion of the tract.[17] Soviet interest in oil in the region remained considerable, as had been demonstrated in an unusual manner during the summer of 1983 when a Soviet Tu-95 "Bear" aircraft buzzed a test well some seventy-five miles east of the U.S.-claimed line and comfortably within the U.S. EEZ.[18]

In 1984, the U.S. Department of the Interior requested bids for potentially lucrative oil leases in the Navarin Basin tract. The U.S. Geological Survey had identified three geologic structures in the sale area that might contain oil. Estimates of reserves in the twenty-eight million acre tract had indicated that the Navarin held 1.9 billion barrels of oil under waters less than two hundred meters in depth, and also 7.5 trillion cubic feet of natural gas in similar water depths[19]—substantial by "lower forty-eight" standards but still only a fraction of the Prudhoe Bay reserves on Alaska's North Slope. Because of the boundary dispute, the Interior Department placed in escrow the bids received for blocks of the tract lying in the disputed area, and no exploration was permitted to take place in that part of the Navarin. Finally, in December 1988, Interior returned some $30 million in escrowed funds to Shell, ARCO, and AMOCO, at their request, because leases for the seventeen blocks in the disputed area for which bids were received had not been issued, due in part to continued uncertainty about the boundary.[20]

Now that a boundary settlement has been achieved, prospects have improved for U.S. and Soviet joint ventures in oil exploration and, later, exploitation in

the Bering and Chukchi Seas. The Navarin Basin is again expected to become the focus of interest, although no commercial discoveries have as yet been made.[21]

Offshore drilling in the outer continental shelf off Alaska is not affected by the Bush administration's decision in June 1990 to postpone offshore drilling in much of the rest of the U.S. continental shelf for up to ten years,[22] and as a result it appears inevitable that U.S. oil exploration will become increasingly active in the North. Yet, as noted above, the Bering Sea is one of the world's most productive fishing grounds, attracting commercial salmon, pollock, and crab fishermen. The fear of environmental damage from oil spills has created concerns in Alaska and elsewhere in the region that these resources could be seriously damaged. Indeed, the Interior Department's program for leasing oil and gas tracts off the Alaskan coast—including outer continental shelf areas of the Navarin Basin—was enjoined for a time by a federal court on the grounds that the sale of such leases could result in interference with native Alaskan hunting and fishing rights. However, the U.S. Supreme Court disagreed with lower federal courts and in 1987 removed these legal barriers to the sale of leases, deciding that state protection of such native rights did not apply to the outer continental shelf.[23]

The dramatic development of the international law of the sea during the post-World War II era has resulted in the establishment of national rights to EEZs and the continental shelf. The first clear assertion of the principle that the contiguous continental shelf belongs to the coastal state was made by President Truman's Proclamation of 28 September 1945.[24] This was followed by a number of similar claims on the part of many other nations. By 1958, the international community confirmed, in the Convention on the Continental Shelf, the concept that coastal states enjoy certain rights over their contiguous shelves.[25] By 1969, the International Court of Justice was able to describe these coastal state rights as "inherent," in its decision in the *North Sea Continental Shelf* Cases.[26]

The 1982 United Nations Convention on the Law of the Sea also indicates that the coastal state enjoys sovereign rights over all natural resources of its EEZ, including sea-bed resources.[27] However, the well-known fact that the United States is not a party to that agreement does not in any way create a difficulty for the U.S. in asserting rights to its contiguous continental shelf. This is because the "inherent" right recognized by the International Court of Justice is part of customary international law and as such can be claimed by every nation without regard to the Law of the Sea Convention—which in any case is not yet in force since it has not yet attracted the number of ratifications required. A second basis for its shelf claim is available to the United States in that the EEZ is also understood by the U.S. to be a right recognized under customary international law. As such, it exist separately and apart from the Law of the Sea Convention in the same way that the U.S. views many other important provisions of that convention, such as those relating to navigational matters, the twelve-mile

breadth of the territorial sea, and the right to exploit mineral resources of areas of the sea bed beyond the limits of national jurisdiction.[28]

As a result, the U.S. and the U.S.S.R. have now agreed, as between themselves, that neither will make any claim to continental shelf in the area beyond its maritime boundary with the other; that is, each side's shelf will be delimited by that boundary. Although the more usual practice in settling maritime boundaries of opposite states has been to agree upon the median line, i.e., a line equidistant from the nearest points of the opposing states' shores, this has not been a consistent international practice. For example, the 1974 Agreement between India and Sri Lanka on the Boundary in Historic Waters employed a modified median line to take into account "historical" factors. Equitable principles are always relevant, whether for territorial waters, EEZ, or continental shelf. However, the primary rule of international law is simply that delimitation should be made by agreement between the involved nations.[29] U.S. policy mirrors these considerations: delimitations should be accomplished by agreement in accordance with equitable principles.[30]

As we shall see, in the 1990 U.S.-U.S.S.R. Agreement the parties did not choose to draw an altogether new maritime boundary. Instead, they elected to confirm the basic and historic division set out in the 1867 Convention, and to employ that basic line (with some relatively slight geographic diversions) as their maritime boundary for all purposes, including delimitations between themselves of the continental shelf and EEZ.

Lurking in the background of the economic issues which arose from the overlapping claims in the Bering Sea, strategic questions have always been present. Certainly, access to the Bering Straits has for some time been an important strategic requirement for the navies of both the U.S. and U.S.S.R. Of course, the lack of an agreed maritime boundary in the area did not serve as a major disincentive to otherwise necessary operational activities (e.g., the U.S.-Allied PACEX '89 exercise in nearby North Pacific waters, the largest series of joint-combined exercises in the area since World War II),[31] if only because, beyond the territorial sea, delimitation has no effect upon navigational rights and freedoms. Nevertheless, it is clear that the confirmation of the location of the boundary has the effect of enhancing strategic stability between neighbors, and creating the conditions necessary to strengthen that relationship. As Robert Frost has well noted, "good fences make good neighbors."

The U.S.S.R. had some additional reasons why it wanted to resolve the boundary question. The Soviets were reportedly quite concerned about establishing negative precedents which might affect the outcome of similar negotiations with the Norwegian government involving a disputed portion of the Barents Sea, which controls routes to some of the most important and largest naval bases in the Soviet Union.[32] The Kola and White Sea coasts are currently the best basing areas for Soviet SSBNs, and the adjacent Arctic waters constitute the

optimal operational concealment and launching stations for these strategic forces. Thus a majority of Soviet SSBNs, some sixty percent of the total force, are based here.[33]

Intimately related to this capability is the reality that among the most important Soviet naval objectives in any future world conflict would be the seizure of lines of communication linking the Arctic Basin with the North Pacific. Such control would enable Soviet Northern Fleet and Pacific Fleet submarines to reinforce each other without interference along interior lines of operation.[34] Soviet naval literature, such as the influential *Morskoy sbornik*, emphasizes the key importance of controlling access to chokepoints such as the Bering Straits.[35] Soviet capabilities to project naval forces through this region are undoubted.[36] Moreover, modern Soviet SSBNs no longer need to run the gauntlet of U.S. or Nato antisubmarine warfare barriers, since those in the Northern and Pacific Fleets have long-range SLBMs which permit them to patrol in bastions close to the Soviet northern coasts.

Arctic bastions, of course, offer the additional protection of shallow waters, reducing the advantage enjoyed by U.S. SSNs, as well as of partial ice cover, which limits antisubmarine warfare operations by aircraft or surface vessels.[37] The ice pack also provides some protection from sea surveillance, and its ambient noise and currents interfere with detection by underwater electronics (sonar), acoustics (sound), and magnetic anomalies. The *Typhoon* class SSBN was designed specifically for operation in ice-covered waters.[38] This capability is now challengeable by the newer-production *Los Angeles*-class attack submarines starting with the USS *Chicago* (SSN-721), commissioned in 1986 and fitted with bow-mounted retractable diving planes and other features for under-ice operations.[39]

The new boundary agreement confirms that the U.S. has succeeded in maintaining uneroded access to the Bering Straits and preserving its freedoms to operate in the Bering and Chukchi Seas, as well as in the North Pacific and Arctic Oceans. This reinforces standing U.S. Arctic policy, which lists as a primary requirement the protection of essential U.S. security interests in the Arctic region.[40] Indeed, the Arctic Research and Policy Act of 1984 makes clear that, in the view of Congress, "as the Nation's only common border with the Soviet Union, the Arctic is critical to national defense."[41] In conformity with this principle, the U.S. was mindful that no precedent be set in the negotiations that would support the unilateral claims advanced by Soviet theorists to a "sector" of the Arctic stretching from their northern coasts to the pole itself. Although it is unclear whether the Soviet Union has ever officially embraced this theory,[42] the U.S. has consistently taken care to oppose all such claims, including those made by allies such as Canada. It need hardly be emphasized that high seas freedoms to operate on, over, and under the ocean areas of the Arctic are of paramount importance to the U.S. strategic posture, whether for deployment of SSBNs or for overflight by B-52s and other U.S. strategic forces.

What does the new agreement specifically provide? First, it makes clear that the new boundary will generally follow the course of the 1867 line of division, pursuant to the desire of the parties to "split-the-difference" between their competing projections of the 1867 line in the Bering Sea and the consequent overlaps of EEZ areas.[43] Adoption of such an equitable and pragmatic approach led to results that have been welcomed by observers such as the chairman of the American Section of the International North Pacific Fisheries Commission, Mr. Clement Tillion, who observed, "neither side can say they beat anybody out of anything. It's a very nice agreement."[44]

The new agreement defines the limits within which each signatory may exercise territorial sea or EEZ jurisdiction in those areas where its claimed twelve nautical mile territorial seas or two hundred nautical mile EEZ would otherwise overlap the other's or remain in dispute. It also delimits, as between the parties, the continental shelf jurisdiction beyond two hundred nautical miles from their respective coasts that they may exercise in accordance with international law, in the Arctic Ocean, Bering, and Chukchi Seas, and a portion of the North Pacific Ocean.[45]

As President Bush stated in his letter transmitting the new agreement to the Senate for its advice and consent to ratification: "I believe the agreement to be fully in the United States interest. It reflects the view of the United States that the maritime boundary should follow the 1867 Convention line."[46]

Indeed, this is made clear in Article 1 of the agreement. Article 1 also contains the explicit statement that each party is to respect the boundary as limiting its coastal state jurisdiction. This means of course that neither side will attempt to manage offshore resources in areas on the opposite side of the boundary.

Article 2 of the agreement contains the legal description of the boundary. It is essentially the same as the line of allocation set forth in the 1867 Convention. Thus, the boundary proceeds from the point in the Bering Strait midway between Big (U.S.S.R.) and Little (U.S.) Diomede Islands due north as far as permitted under international law—for example, the U.S. EEZ terminates in the Arctic Ocean at about seventy-four degrees north latitude, close to the southern edge of permanent pack ice. (U.S. continental shelf jurisdiction may extend further north: see map.) South of the Bering Strait, the boundary extends generally southwestward to 167 degrees east longitude, terminating southwest of the Aleutian Island chain at a point lying slightly over two hundred nautical miles from both Soviet and U.S. territory.

Article 3 is a novel provision, and the first example known of the technique employed: the transfer by each party to the other of the right to exercise EEZ-derived sovereign rights and jurisdiction (which only the transferor would otherwise have been entitled to exercise) in "Special Areas" established by the agreement. Why was this done?—to avoid enlarging the high seas area of the "Doughnut Hole." This would have been the outcome had the parties failed to take into account those cases in which either of them had (or could have) asserted

EEZ-derived rights across the 1867 line in locations where there were no overlaps with the EEZ of the other party. The result would have been the cutting off or prevention of EEZ claims in these areas, thus placing the fisheries resources therein outside the jurisdiction of both parties.

The map shows that of the Special Areas created, several, designated "Eastern," involve Soviet-origin areas and one, designated "Western," involves an area of U.S. origin. It is clear that the transfer of such rights and jurisdiction is complete for the duration of the agreement. Moreover, in effecting such transfer, neither side is ceding any part of its EEZ to the other, nor is either side extending its own EEZ. To emphasize the non-EEZ nature of the Special Areas, each administering party will be obliged to ensure that its laws, legislation, and charts distinguish such areas from its EEZ.

Of final note, Article 6 calls for any dispute over interpretation of the government to be resolved by negotiation or other peaceful means agreed between the parties. This represents a step forward in terms of the willingness of the two nations to contemplate various means of dispute settlement. In most modern U.S.-Soviet agreements—for example, those in the sphere of arms control—disputes have been confined to bilateral diplomatic channels, usually within a consultative body established for the specific purpose. The mutual willingness shown in the boundary agreement to give consideration to the full range of mechanisms available to deal effectively with disputes (including, at least in theory, both arbitration and judicial settlement) is a positive development.

What happens next? To complete the process, each side must ratify the agreement through its own constitutional requirements. For the U.S., this will involve the advice and consent of the Senate;[47] for the U.S.S.R., the Supreme Soviet must signify its assent. During the interim, however, the agreement will remain in force provisionally, perhaps for many years, pursuant to the Baker-Shevardnadze Exchange of Notes. Meanwhile, the world's longest maritime boundary can be expected to gain recognition as powerful, practical evidence of the strengthened stability that results from the positive application of international law by the U.S. and U.S.S.R. to the solution of mutual problems.

Notes

1. Agreement Between the United States of America and the Union of Soviet Socialist Republics on the Maritime Boundary, with Annex, signed at Washington, June 1, 1990. U.S. Senate, 101st Cong., 2d Sess., Treaty Doc. 101-22. Reproduced in *International Legal Materials* (July 1990), pp. 942-945 (hereafter cited as Treaty Doc. 101-22).

2. Exchange of Notes between Soviet Foreign Minister Shevardnadze and Secretary of State Baker dated June 1, 1990 (unpublished). The agreement has been submitted for advice and consent of the Senate to its ratification (but see also note 47, below). The Exchange of Notes establishing interim application is consistent with U.S. practice, e.g., with regard to the maritime boundary agreements with Cuba, signed 16 December 1977 (and subsequent Exchange of Notes, 26 December 1989), and also with Mexico, signed 4 May 1978.

3. See map.

4. Agreement Between the United States of America and the Union of Soviet Socialist Republics Concerning the Bering Straits Regional Commission, signed at Jackson hole, Wyoming, September 23, 1989. *International Legal Materials* (November 1989), pp. 1429-1433. Agreement between the United States of America and the Union of Soviet Socialist Republics concerning Mutual Visits by Inhabitants of the Bering Straits Region, signed at Jackson Hole, Wyoming, September 23, 1989. *International Legal Materials* (November 1989), pp. 1424-1428. Agreement Between the United States of America and the Union of Soviet Socialist Republics Concerning Maritime Search and Rescue, signed at Moscow, U.S.S.R., May 31, 1988 (unpublished).

5. Article II states: "The western limit within which the territories and dominion conveyed, are contained, passes through a point in Behring's straits on the parallel of sixty-five degrees thirty minutes north latitude, at its intersection by the meridian which passes midway between the islands of Krusenstern or Ignalook, and the island of Ratmanoff, or Noonarhook, and proceeds due north, without limitation, into the same Frozen ocean. The same western limit, beginning at the same initial point, proceeds thence in a course nearly southwest, through Behring's straits and Behring's sea, so as to pass midway between the northwest point of the island of St. Lawrence and the southeast point of Cape Choukotski, to the meridian of one hundred and seventy-two degrees west longitude; thence, from the intersection of that meridian, in a southwesterly direction, so as to pass midway between the island of Attou and the Copper island of the Kormandorski couplet or group in the North Pacific ocean, to the meridian of one hundred and ninety-three degrees west longitude, so as to include in the territory conveyed the whole of the Aleutian islands east of that meridian." Convention Between the United States of America and His Majesty the Emperor of all the Russias Concerning the Cession of Alaska, signed at Washington, March 30, 1867. Charles I. Bevans, comp., *Treaties and Other International Agreements of the United States of America 1776-1949* (Washington, D.C.: Department of State, 1984), v. 11, pp. 1216-1219.

6. John Bassett Moore, *A Digest of International Law* (Washington: Government Printing Office, 1906), v. 1, p. 475.

7. The Alaska cession treaty is a classic example of this technique: S. Whittemore Boggs, "Delimitation of Seaward Areas Under National Jurisdiction," *American Journal of International Law*, April 1951, p. 240, footnote 2.

8. Secretary of State Baker's Letter of Submittal, Treaty Doc. 101-22, p. v. For further background on this point, see Camille M. Antinori, "The Bering Sea: A Maritime Delimitation Dispute between the United States and the Soviet Union," *Ocean Development and International Law*, no. 1, 1987, pp. 24-26.

9. Treaty Doc. 101-22, p. v.

10. *Ibid.*, p. vi.

11. Robert W. Smith, "The Maritime Boundaries of the United States," *The Geographical Review*, October 1981, p. 405.

12. Associated Press, 9 August 1986; United Press International, 10 August 1986; *Alaska Bear*, July-September 1986 (published by the USCG Seventeenth District).

13. Submitted to Congress pursuant to the requirements of the Magnuson Fishery Conservation and Management Act, Public Law 94-265, Title II, sec. 203; the agreement was approved by sec. 1 of Public Law 100-629, 7 November 1988. The agreement provides opportunities for fishermen from each country to conduct fisheries activities on a reciprocal basis in the other country's waters: see President Reagan's Message to Congress transmitting the U.S.-Soviet Fishery Agreement, *Weekly Compilation of Presidential Documents*, 22 June 1988, p. 846.

14. Krys Holmes, "Ship to Shore," *Alaska Business Monthly*, March 1990, p. 54.

15. See U.S. House of Representatives, Committee on Foreign Affairs, Subcommittees on Human Rights and International Organizations and on International Economic Policy and Trade, 100th Cong. 2d Sess., *Hearing on Oversight of the U.S. and U.S.S.R. Fisheries Agreement*, 29 June 1988, pp. 1-2. See also Edward L. Miles and William T. Burke, "Pressures on the United Nations Convention on the Law of the Sea of 1982 Arising from New Fisheries Conflicts: The Problem of Straddling Stocks," *Ocean Development and International Law*, no. 4, 1989, pp. 343-357. The U.S. Government reportedly rejected a call for unilateral extension of jurisdiction beyond two hundred nautical miles to permit management of such stocks (Miles and Burke, p. 349).

16. "MMS issues draft EIS for Navarin Area," *Oil & Gas Journal*, 18 June 1990, p. 27.

17. Andrea MacLeod, "Oil lease offering in U.S.-Soviet disputed waters," *United Press International*, 16 April 1984.

18. *Ibid.*

19. J. R. V. Prescott, *The Maritime Political Boundaries of the World* (London and New York: Methuen, 1985), p. 250. The current estimate of the Minerals Mining Service, Department of the Interior, has been revised downward, indicating that the basin's resource potential is about 1.1 billion barrels. (Letter from Mr. George Carnenter, MMS, to the author, 5 June 1991.)

20. *Oil & Gas Journal*, 16 July 1990, p. 4.

21. Ross Anderson, "No ordinary voyage—U.S., Soviet scientists working on pact to explore Arctic seas for new oil deposits," *Seattle Times*, 1 July 1990, p. E1. Interest persists despite the fact that during winter most of the Bering Sea shelf is ice-covered: G. D. Sharma, "Geological Oceanography of the Bering Shelf," in Y. Herman, ed., *Marine Geology and Oceanography of the Arctic Seas* (New York & Berlin: Springer-Verlag, 1974), p. 141.

22. *Oil & Gas Journal*, 2 July 1990, p. 26.

23. *Amoco Production Co., et al.* v. *Village of Gambell, et al.*, 480 U.S. 531; 107 S. Ct. 1396; 94 L. Ed. 2d 542 (1987).

24. Proclamation No. 2667, "Policy of the United States With Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf", *Code of Federal Regulations*, Title 3, *1943-48 Compilation*, pp. 67-68.

25. 15 U.S.T. 471; TIAS 5578; 499 U.N.T.S. 311.

26. International Court of Justice, *Reports 1969*, p. 23, (Judgment of 20 February 1969; *Fed. Rep. of Germany* v. *Denmark*, *Fed. Rep. of Germany* v. *Netherlands*).

27. UNCLOS Art. 56.1(a). See also R. R. Churchill and A. V. Lowe, *The Law of the Sea* (Manchester, England: Manchester Univ. Press, rev. ed., 1988), pp. 137-140.

28. See Proclamation 5928 of 27 December 1988, "Territorial Sea of the United States of America," 54 Fed. Reg. 777, 9 January 1989.

29. Churchill and Lowe, pp. 154-158.

30. Smith, "Maritime Boundaries," p. 410.

31. R. Y. Horiguchi, "Big US Show of Strength," *Pacific Defence Reporter*, February 1990, p. 43; *Air Force Magazine*, May 1990, p. 81.

32. The Severodvinsk shipyard currently builds the DELTA-IV SSBN and OSCAR-II SSGN nuclear-powered submarines. U.S. Naval Institute *Proceedings*, January 1991, p. 126.

33. Tomas Ries, "Soviet Military Strategy and Northern Waters," in Clive Archer, ed., *The Soviet Union and Northern Waters* (London: Routledge for the RIIA, 1988), p. 91. The Northern Fleet headquarters at Severomorsk is currently thought to be responsible for some sixty-four SSBNs and SSGNs and perhaps eighty more general-purpose submarines. (International Institute for Strategic Studies, *The Military Balance 1990-1991*, 1990, p. 39.)

34. Charles C. Petersen, "Soviet Military Objectives in the Arctic Theater," *Naval War College Review*, Autumn 1987, p. 3.

35. *Ibid.*, p. 8, quoting G. Morozov and B. Krivinskiy, "The Role of Straits in the Modern War," *Morskoy sbornik* (Naval Digest), August 1982.

36. See, e.g., Dennis M. Egan and David W. Orr, "Sea Control in the Arctic: A Soviet Perspective," *Naval War College Review*, Winter 1988, p. 76.

37. George Lindsey, "Arctic Perspectives From Different NATO Viewpoints," *NATO's Sixteen Nations*, November 1988, p. 54.

38. David L. Larson, "United States Interests in the Arctic Region," *Ocean Development and International Law*, no. 2, 1990, p. 170.

39. Edward B. Atkeson, "Fighting Subs Under the Ice," U.S. Naval Institute *Proceedings*, September 1987, p. 83; Capt. Richard Sharpe, RN, ed., *Jane's Fighting Ships, 1990-91*, p. 724.

40. Report of the Interagency Arctic Policy Group, *Dept. of State Bulletin*, July 1983, p. 89.

41. Public Law 98-373, sec. 102 (a)(2).

42. William E. Butler, *Northeast Arctic Passage* (Alphen aan den Rijn, the Netherlands: Sijthoff & Noordhoff, 1978), pp. 71-75.

43. Treaty Doc. 101-22, p. vi.

44. W. Dale Nelson, "Maritime Boundary," *Associated Press Dispatch*, 19 June 1990.

45. Treaty Doc. 101-22, p. v.

46. *Ibid.*, p. iii.

47. Hearings were scheduled to be held before the Committee on Foreign Relations, U.S. Senate, on 13 June 1991, as this article went to press.

Ψ

Reciprocal Disarmament
A Game Proposal

Malcolm Chalmers

THE EVENTS OF THE late 1980s brought high hopes that arms control could play a major role in reducing both the danger of war and the considerable economic burden which the maintenance of large military forces represents. At the same time, many critics have pointed out that arms control, at least as traditionally conceived, has inherent limitations. For no treaty, however well-drafted, can ever encompass and quantify every significant aspect of the military strength that potential adversaries may have. As a result, one of the most important requirements for the success of arms control, in practice, is that all parties refrain from exploiting too aggressively whatever "gaps" remain in the agreements they have reached. There may be domestic pressures not to sacrifice capabilities or programmes that are not specifically ruled out by the letter of an agreement. But if these pressures are not resisted, any gains—whether in terms of increased military stability or in terms of cost savings—will likely be undermined over time should parties to the agreement divert their efforts into areas that are not rigorously fixed by the agreement. The SALT I Treaty, for example, encouraged, rather than discouraged, destabilizing developments in strategic force structure—notably MIRVing—and as a result, helped to discredit arms control *per se* for many years.

Yet even the Conventional Forces in Europe (CFE) Treaty, by far the most comprehensive and far-reaching of all the agreements that marked the end of the Cold War, has important limitations. It places no restrictions on the quality of the forces allowed the two sides, nor on the rate at which they can be modernised. As Nato discovered, to its apparent surprise early in 1991, the treaty permits the stockpiling of massive inventories of equipment by the Soviet Union just east of the Ural Mountains. And it takes no account of the considerable firepower that U.S. and Allied naval forces could bring to bear on a land war in Europe, an issue on which the Soviet military continues to feel unfairly treated.

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If the very real gains from the signature of the CFE Treaty are not to be whittled away, the signatories must refrain from assuming that "everything not prohibited is allowed." If resources released from frontline equipment stocks are used to improve quality, if savings on ground-based air forces are used to build up carrier air power, and, more generally, savings on treaty-limited items are used to build up non-limited aspects of military capability, the arms race will not have been reversed; it simply will have been displaced.

The negotiation of a second treaty (a CFE II) is often suggested as a means for safeguarding and increasing the benefits that flow from the CFE Treaty. Such an agreement could reduce the number of major weapon systems to a level 35-40 percent below that of "CFE I." Negotiators might also seek to extend the treaty to include items not presently included, such as manpower or even naval forces. Even if this were to occur—and at present the difficulties inherent in extending CFE to include naval forces seem insurmountable—there would remain many aspects of military power that would be unconstrained by treaty.

Because of this problem, which it can be argued is an inherent consequence of the attempt to restrain complex military capabilities through simple numerical ceilings on weapons inventories, I am suggesting an approach that complements formal arms control: a process of unilateral, but broadly reciprocal, concessions. In such a process, concessions by one side might be matched by cuts in a quite different area by the other side. The direct and immediate object of unilateral steps would not be to elicit a similar response from the other side, but rather to contribute to a climate in which both sides would be able to draw down their threats to each other. This may involve a whole series of unreciprocated initiatives in unrelated areas.

This broad concept seems to have informed much of what has actually been happening in recent years, such as Gorbachev's approach to arms control since he came to power in 1985. Beginning with his unilateral moratorium on nuclear tests, and culminating in the complete withdrawal of Soviet troops from Eastern Europe, Gorbachev has systematically sought to demonstrate by deeds that he is "taking away the enemy." Even before a successful conclusion had been reached in the CFE talks, the Soviet Union had announced the withdrawal of half of its tanks from Eastern Europe, and was well advanced in talks aimed at withdrawing all its forces from Eastern Europe. In response to this sharp reduction in the Soviet threat, both the United States and its major European allies announced plans to cut their forces in Europe to levels well below those to which they were entitled by the CFE Treaty. On both sides, therefore, the main impetus for mutual force reductions came not from the CFE Treaty, but from a more complex process of mutual threat revision and unilateralism.

While it is likely that a role for such mutual unilateralism will continue, so far there has been rather little thought given to what form it might and should take. I suggest that there should be at least three criteria taken into account:

• Whether a set of steps proposed for a country would leave that country feeling significantly less secure militarily.

• Whether an opponent would view the steps taken as a genuine reduction in the threat that it perceives.

• How acceptable the proposed cuts would be to the decision-making apparatus of the country that is to make the cuts, given the power of their various pressure groups—military, industrial, bureaucratic—which are capable of blocking or supporting such developments.

A "disarmament game," which seeks to go beyond the discussions of military doctrine already begun between members of the Conference on Security and Cooperation in Europe (CSCE), could help determine what steps might best meet these three criteria. Such exchanges are of value insofar as each participant is able to form a more accurate sense of the others' concerns, both military and domestic-political. Yet by their nature they may be too unstructured to give specific guidance to a country as to what unilateral measures might most contribute to its own security, at minimum cost to itself. Our game thus seeks to develop a means of filling the gap between, on the one hand, the detailed "bean-counting" approach of the formal arms control talks, and on the other hand, the broader approach seen in the doctrine discussions.

The Game's Principles

The game suggested in this paper is intended to help identify specific reciprocal steps which could achieve substantial and mutually satisfactory results. It is thus both a test as to whether reciprocal disarmament would produce results that are mutually acceptable, and an effort to elaborate specific options for such a process. However, I do not propose that negotiations should actually take this form. The game is designed to stimulate ideas and inputs that might enrich the existing decision-making mechanisms, not to serve as an alternative model.

There are some parallels to war gaming—which has cost a great deal of effort and expense in governments over the last 20 years.[1] War gaming involves teams of players—traditionally Red and Blue—taking on the make-believe roles of decision makers. It may be more informative in the questions it raises than in the answers it gives, and disarmament gaming may be too. At any rate, it is hoped that in thinking about the proposed game, the participants will develop new ideas on how to carry forward the process of disarmament.

The idea of such games is not entirely new. It was first proposed, to my knowledge, by S. H. Salter, in a little-known paper distributed in 1984.[2] It has been tried as a teaching aid in reference to strategic nuclear negotiations at the U.S. Naval War College.[3] And, most recently, the Center for Foreign Policy Development at Brown University, working with the Institute for U.S. and

Canada in Moscow, has begun playing a game designed to explore possibilities for CFE II talks.[4]

Surprisingly, however, games of this sort have never been used to explore the possibilities for reciprocal unilateralism, a purpose for which they are particularly well-suited. In formal negotiations, symbolic results, such as the explicit acceptance of parity in force numbers, are of considerable importance. Even if military stability might be better served by an asymmetrical agreement (with each side ahead in some categories, while behind in others, as a game that models formal negotiations is likely to suggest, it may be difficult to justify such an agreement to a wider political audience. By contrast, our game seeks to complement the formal arms control process, rather than guide it directly, and thus does not require an explicit rejection of the "parity principle." Because it is not bound by the need to limit itself to particular categories of weapons or units, it is free to explore other, less-examined, means of achieving mutual reassurance.

The game assumes there are two decision-making centres, one representing Nato and the other representing the Soviet Union. It is assumed that each side is capable of making its own decisions as to priorities and threat perception. It is also assumed that CFE I has been agreed upon and is in the process of being implemented. Game Control gives the teams a list of assumptions as to what the post-CFE I forces look like, as well as how the treaty provides for phasing in the proposed reductions.[5]

Step 1 in the game is the Disarmament Initiative Shopping List. It might alternatively be called the threat identification step.

Each team, simultaneously, lists all the military capabilities of the other team which it considers to be threats. Control may provide first drafts of these lists in order to expedite the game. It is up to the teams, however, to amend or ignore these drafts as they wish.

For each of the capabilities listed (in as much detail as they wish), each team specifies what steps will have to be taken by the other team for it to be satisfied that the threat has been removed. Thus, for example, the Nato team might consider two Soviet squadrons of attack aircraft to be a threat. For the Nato team to be satisfied that the threat has been removed, the aircraft would have to be destroyed and the units disbanded. This in turn would require the type of on-site inspection that has already been provided for in the CFE Treaty.

Limitation on what may be included in the list of threats is as small as possible. Threats can be defined in terms of a combination of different units (weapons, soldiers, brigades, etc.); location of units; action of units (training, exercises, concealment, etc.). If a team wishes, it may include the possibility of accelerating the process of cuts announced in CFE. The main fixed requirement is that the team specifying a particular threat should also specify a means of adequately verifying its removal.

This liberal interpretation of threat has a number of advantages. It allows bringing into discussion many military capabilities that are presently left out. For example, potential threats from navies and from forces based east of the Urals could be discussed, as could the rates at which new weapons or technologies are introduced by potential opponents. It is even possible that one or both teams may decide to include factors that are integral to military preparations, but are generally overlooked in formal negotiations. Some boundaries to the exercise clearly need to be established in order to forestall an all-encompassing discussion of the East-West relationship in all its political, humanitarian and cultural dimensions. Certainly, however, the possibility of limiting the adaptation of civil assets for military purposes, or the type and scope of military intelligence activities, should not be ruled out.

This liberal approach to setting the limits of the discussion provides a useful complement to the CFE process—a process in which the setting of limits has been the central bone of contention at every stage. The talks did not formally start until the Warsaw Pact agreed to exclude navies and nuclear weapons. By far the most important breakthrough came when Nato agreed to include manpower, aircraft and helicopters. The main substantive disagreements in the endgame focused on which aircraft and armoured vehicles should be included in the treaty, and which should be excluded. By comparison, setting the actual level of the ceilings was a much less controversial matter since both sides were committed to the principle of numerical parity at or below current Nato levels.

In our game, by contrast, the boundaries of the talks can be left much less well-defined. Unlike the CFE process, inclusion of a particular type of unit in the discussion (through its inclusion in one team's "disarmament shopping list") does not imply that the other side will choose to accept limits on that unit. For each team decides which of its own forces it will remove, choosing only a fraction of the options submitted by the opposite team. (See step 3.) Thus, acceptance that it is legitimate for either side to voice concern about something in no way implies that anything will be done about it.

The listing of possible disarmament steps is interesting and even modestly revealing. In order to give it bite, however, it is necessary to weigh these threat perceptions. This obliges participants to state the relative importance of the items in the list of choices. This is carried out in Step 2: Pricing the Disarmament Shopping List. In this stage of the game, each team attaches a value (up to a total of, say, 10,000 for the overall selection) to each threat on the list.

In addition, both teams are told that they must divide their list of threats into units of no more than, say, 100. This requirement for a maximum value for any one threat is necessary in order to allow for the fact that a number of small steps may be easier for either side to take than one or two larger ones. It may be easier for Nato, for example, to cut the size of all its separate air forces by 10 percent than for it to totally withdraw all U.S. aircraft from Europe. It is thus necessary

that, in identifying the threats it believes it faces, the Soviet Union break down the threats from each of the Nato air forces to a level of detail that allows for cuts of this order of magnitude.

Disarmament initiatives may overlap each other in content. Thus a team can ask for both a reduction in production and in deployment of a particular weapon and weigh them separately. Although cuts in overall budgets may be given a separate weight, clearly much of the budget is for items—such as weapons and personnel—that may also be listed elsewhere.

However, there is nothing particularly unusual in this. No one measure can capture the entire character of a particular threat, and the use of several indicators thus adds to the realism of the exercise. Indeed, this very point was recognised in the limits placed on numbers of U.S. and German military personnel, which complement the simultaneous restrictions the CFE Treaty places on the equipment held by these forces.

Step 3 is the Threat Removal Step. In this step, each side is obliged to make a list of the measures it proposes to carry out. These should add up to 20 percent of the disarmament initiatives identified by the other side.

Step 4 is the Reciprocation Agreement Step. Once both sides have looked at and compared the lists, each should discuss separately whether or not to accept the entire package. The game is "won" only if both sides believe that they would be better off by participating in the mutual cutbacks than by retreating from the process.

The Players

The disarmament game is quite complex. It may work best with well-informed participants who have a broad knowledge of the current correlation of military forces, as well as an understanding of the political factors that would limit the flexibility of a reciprocation process. It seems plausible to suggest that different types of participants—military or civilian, American or European, academicians or practicing politicians—might adopt different priorities and approaches. This suggests that, firstly, the teams should be chosen to reflect a balance of different interests;[6] and secondly, that it would be interesting to see whether significantly different results would be obtained if dissimilar types of participants were chosen.

The complexity of the game should not, however, be overstated. For a knowledgeable group of 10-12 people, and with careful preparation, the game's purposes and rules could be explained in half a day; the actual game could be played over perhaps two days; and an initial feedback session might last a further half day. Assembling a group of middle-ranking officials, officers and non-governmental experts together to play the game could yield results more concrete than many of the short seminars in this field. If nothing else they would

produce some concentrated brainstorming on the possibilities for disarmament post-CFE I: a topic which is already becoming of ever greater importance to the security planning of both sides.

The Advantages of the Game

It Rewards Honestly. The first advantage of the game is that it creates incentives for both sides to be honest about what it is that they fear most, and what they fear very little, if at all. Because the choice of what to cut is decided by the other team, overstating a threat for deliberate propaganda or deception purposes (as opposed to genuine misunderstanding) would be a foolish tactic that would allow the opposite side to earn its quota of disarmament points by removing precisely those threats that have been distorted.

In addition, it would minimise the tendency in traditional arms control for reductions to be concentrated on those weapons and units which are of lowest military value. One drawback of CFE-type processes is that the first weapons to be scrapped are always the oldest and least threatening. The need to agree to common and verifiable definitions of categories of weapon systems, as a precursor to an agreement on parity in those categories, tends to lead to very broad categories of weapons—such as "combat aircraft" or "artillery." One merit of the game is that it allows each team to segregate the forces of the other side in any way it chooses, without having to suggest that this type of segregation is appropriate to its own forces. For example, Nato could divide the Soviet tank fleet between old and new models, and define these two categories in terms of the actual models (T-54/55/62 as old, T-64/72/80 as new).[7] As long as the team choosing to divide the threat in this way is satisfied that it can verify the difference, that is sufficient.

In a similar vein, the game should encourage the players to spread their allocation of the perceived threat in accordance with relative threat values, rather than simply concentrating on one component of the threat to dictate what disarmament actions the other side will take. For example, were Nato to allocate its entire threat budget of 10,000 points to the Soviet ground forces in Germany, with the aim of forcing the Soviet Union to cut here rather than elsewhere, the Soviet Union would then have to cut only 20 percent of this one component of its forces, and nothing else. Yet, if Nato had allocated its 10,000 points over the spectrum of Soviet forces to reflect the multiplicity of threats it faces, the Soviet Union would have to give up 20 percent of its entire threat, not simply 20 percent of one component.

It Uses Military Asymmetry Productively. One drawback of traditional arms control is that it tries to fit military structures into a framework—numerical parity—which is essentially artificial, leaving out those elements of the military

balance that cannot be quantified easily (such as personnel quality). Moreover, it often exhibits a tendency to downplay the fact that asymmetries often reflect differences in the geographical, economic, or political environment between the participating states. It is geography that drives the Soviet Union to put emphasis on its army, and the United States to support a large navy. Differences in technological capacity help to explain the Soviet Union's tendency, at least until recently, to emphasise quantity at the expense of quality. Important domestic considerations, in addition to differing geostrategic positions, explain why some countries have conscript armies and other do not.

The logic of the principle of "eliminating asymmetries," if carried to an extreme, would make no allowance for such factors. Rather, whenever there is an asymmetry, it would removed. Nato should reduce the number of its aircraft carriers to Soviet levels, the Soviet Union should replace conscripts with a volunteer force (or the United States should introduce conscription), and all countries should produce weapons of comparable quality! Simply stating these possibilities illustrates the need to recognise that parity is not the ideal for every situation.

All of this is not to deny the strong political imperative for parity, sought as much by the East as by the West. By appealing to popular concepts of equity, the parity principle helps mobilise support for cuts that might otherwise be unobtainable. Yet the limits of parity (as a goal) should always be borne in mind. So far, the CFE process has succeeded because the Soviet Union, for a combination of economic, political and military reasons, wishes to make deep cuts in its force levels. It has thus agreed to a treaty which institutes parity only in those categories in which the Pact is in the lead. In a CFE II it may not be so easy. As the process advances, the more important it will become for the ideal of parity to be tempered by the need to take into account different, yet legitimate, national requirements for defence.

That is why our game does not try to suppress those asymmetries that are useful. It uses them as a lever to make disarmament easier. It starts with the thesis that the desired outcome is not equality of opposing threats at the lowest possible level; it is the clear superiority of each side's defences over the other's possible offensive threats.[8] In order to close in on this goal, the disarmament process should seek to create or widen this superiority by reducing perceived threats more than it reduces the military capability needed to defeat them.

This aim should find broad agreement. All of the major powers have clearly rejected the utility of military force for any purpose other than defence, at least in Europe. Both Nato and the Soviet Union are now, and arguably always have been, essentially defensive and conservative in their broad goals[9]—a conservatism partly forced upon them by the onset of the nuclear age, and partly taken on willingly in order to minimise the risk that Europe might once again face the carnage of world war.

While both sides now seem to be primarily defensive in the objectives they have set for their military forces, neither feels sure that the other side will always feel the same way. Accordingly, both Nato and the Soviet Union are likely to continue planning on the assumption that the other side might, at some stage, go on the offensive, particularly if that potential opponent still maintains, albeit for purely defensive objectives, forces which are viewed as potentially offensive in nature.

The primarily defensive nature of the defence goals of the two alliances, in contrast to the much more ambiguous nature of their military structures, means that one might expect a country's defensive forces to be of more importance to itself than to its potential foe. In practice, most forces can be used, to some extent, to pursue both defensive and offensive goals. Nevertheless, some forces are more suitable to one type of operation than to another, a fact that is already acknowledged in the CFE talks by the decision to single out particular types of weapon systems as essential components of "the capability for launching surprise attack and for initiating large-scale offensive actions."[10]

Mutual defensivity in national objectives has not always existed in Europe. If one country believes that the territorial *status quo* is unacceptable and should be altered by force, as many Germans felt before both World Wars, it is relative military strength that matters. For a state considering military expansion, weakening the other side's defences is just as important as strengthening one's own offenses. Mutual defensive defence would be seen as a legitimation of an unfair *status quo*; and arms control of any sort would be acceptable only if it led to a strengthening of one's relative position. Fortunately this is not the case in Europe today. Both sides are predominantly defensive in their goals. The central purpose of any disarmament process is to seek to reflect these goals in clearly defensive force structures.

Our game should help to do precisely this. Provided that the weight that the two sides attribute to particular forces differs even fractionally, it should allow players on both sides to believe that the opposite side has reduced its threat by more than their own side has reduced its forces. The greater the disparity in perception between the two sides, the greater the gains that can be made.

One possible advantage of reciprocal disarmament is that it may allow deeper cuts in force levels to be made than would be possible with a further CFE agreement based solely on the principle of equal ceilings. If parity is used as the dominant criterion, a process of cuts will tend to cease whenever either side determines that it has reached the minimum necessary for viable defence.[11] It is possible for both sides to believe (for some categories of military strength) that the acceptable minimum lies at approximately the same level. In this case, our game may offer few additional advantages over parity-based arms control. Given the persistence of differences in geography, technology and military doctrine, however, this may not always be the case. Nato may feel that its minimum force

level in Europe is 3,000 tanks and 1,000 combat helicopters, while the Soviet Union may be willing to go down to 5,000 tanks and 800 helicopters. Permanent geographical differences play an obvious role here. For example, Nato is likely to define a minimum level of sealift and airlift capability much higher than the Soviet Union would accept for its own forces.[12] Other less permanent factors will also be important. For example, the type of equipment used by ground forces may play a role in determining how many kilometres of front can be covered by one regiment.

Parity-based arms control would tend toward impasse in any category in which either side feels it has reached a minimum. By contrast, our game would allow the two sides, if they so wished, to press for further reductions without ignoring these concerns about minimum defensive levels.

A more general but related point is that, for success, parity-based arms control often requires broad agreement as to what constitutes military stability. Though such agreement is both possible and desirable, historical experience, together with continuing heated controversies over whether or not particular forces are defensive or offensive, suggests that it will not be easy. Part of the problem is that stability and deterrence are not purely objective phenomena. They also contain an important subjective element. For stability to exist, it is above all else necessary for all parties in the international system to believe that aggression can not succeed. For if any country believes, even if wrongly, that aggression could be profitable, the possibility of an error in times of crisis clearly must increase.[13] That is why our game is designed to give a key role to the subjective threat perceptions of both sides, and does not require both sides to agree on what constitutes objective stability.

It Is Sensitive to National Sovereignty. One of the persistent obstacles to all forms of disarmament is the requirement that states allow outside interference in areas which traditionally have been considered as essential to their independence and sovereignty. Some forms of disarmament, however, may do this to a greater degree than others. By allowing each team to choose for itself—albeit from a menu of options provided by the other team—which disarmament measures it wants to take, we seek to avoid the problems that are created when one state is viewed as telling another state what to do.

It Tackles Issues Neglected in Formal Arms Control. By limiting only numbers of weapons, there is bound to be a risk that the CFE process could encourage both sides to displace their military efforts into qualitative competition. This is not an easy problem to solve, given the difficulty in defining what is meant by "quality," and our game does not offer a perfect solution to this problem. Yet it does allow either side to specify what aspects of the qualitative arms development of the other side concern it most, and to prescribe measures that would

alleviate those fears. By avoiding the need to create common definitions of quality that can be applied to both sides, as in the CFE process, it widens the type of measure that can be incorporated into the disarmament process. It provides a useful framework within which innovative ideas for curbing the qualitative arms race are given a chance to thrive.

Possible Limitations of the Game

Alliance. In the real world, negotiations on conventional forces took place not between two decision-making centres, but between 23 more-or-less independent states. The more internally democratic the alliances are, the more cumbersome they become as a means of reaching decisions—as the Warsaw Pact discovered in its final months of existence.

The game could seek to reflect the multiplicity of interests within the alliances by including a conscious balance of different nationalities in each team. In particular, it would be of value to include players who represent European states. If it is decided to have two teams of five players each, the Blue team could have two Americans (one of whom would be the "leader,") and one each from Western Europe's three leading military powers.

In the case of the Warsaw Pact, however, the events of the last few months make the creation of a Pact "team" of little value. The newly independent governments of the East European states clearly see the forces of their former ally posing at least as great a threat to their security as those of their former adversaries. It therefore makes more sense to play the game between Nato and the Soviet Union, rather than between Nato and the Warsaw Pact. Given the underlying geopolitical realities of the continent, this bipolarity is likely to remain in being for some time to come.

Non-Verifiable Activity. The revolution in expectations as to what is possible in verification is one of the key developments that made CFE possible. Yet there remain many activities, crucial to miliary competition, that methods have not yet been developed to verify.

Although our game will not solve this problem, it can reduce it. By giving credit for greater openness, and by allowing the testing of ideas for initiatives in areas where verification is problematic, the breadth of the disarmament process can be extended. Taken in the context of other steps—mutual visits to research facilities, abolition of closed military areas, and so on—it may be possible to bring within the reciprocation process even such difficult areas as research and development work.

The same holds true on the modernisation of weapons. Production limits of major new weapon platforms should be relatively easy to verify. The greater problem would deal with modernisation of existing ones. Here there will be the

need for combining verification and accepting the premise that the greater the investment that both sides have in good mutual relations, the less either side will wish to jeopardise these relations by breaking clear declarations of intent.

Political Problems of Asymmetrical Outcomes. Once the CFE I Treaty is signed, parity will be achieved between Nato and the Warsaw Pact in a number of areas. Does it therefore make political sense to regress from this long-sought goal nearly as soon as it has been reached? Would this not cause a degree of political opposition in one country or another which would outweigh any possible military benefit that would accrue from asymmetrical reductions? This is perhaps the most difficult issue for our game proposal to address.

The first point to make is that the principle of parity between the forces of Nato and the Warsaw Pact has been overtaken by events. With the former Pact countries of Eastern Europe steadily moving towards closer security links with Western Europe, there may soon come a time when the strength of their forces should be weighed on the Nato side of the balance. Even if, for the time being, they are assumed to be neutral in any East-West confrontation, the provisions of the CFE Treaty require that, compared with Nato, the Soviet Union accept clear numerical inferiority in equipment levels in the zone of application of the treaty. For example, Nato is allowed to have 20,000 tanks in Europe, compared with the 13,150 permitted the Soviet Union. Indeed, this very inequality, resulting from the Soviet Union's loss of its allies in Eastern Europe, was probably one of the reasons behind the large-scale movement of treaty-limited items east of the Urals shortly before the treaty's signing in November 1990.

The game recognises the tremendous political momentum created by the CFE process, and thus assumes a CFE I treaty as its starting point. Its main concern is that, in discussing further measures of mutual disarmament, states should recognise that parity is not enough. Both sides have many components of their military capabilities that have not yet been limited by treaty, and negotiators will have to consider whether those components should also be brought into the framework. The more deeply that cuts are made in treaty-limited items, the more important it becomes that the capabilities that are not so limited are also restrained in some way; and in many cases the best way for such restraint to occur is through unilateral action by the states concerned, rather than through the imposition of further common ceilings.

It is difficult to imagine, for example, the United States agreeing to Nato/Soviet parity in the number of major surface ships or in long-range power projection capabilities. Both the greater dependence of the West on sea lines of communication, and the considerable lobbying power of the U.S. Navy should curtail such an option. At the same time, it would also be unreasonable to exempt these forces from the disarmament process altogether, particularly since their relative impact on ground warfare in Europe could increase significantly should

there be deep cuts in land-based forces. The U.S. Navy's 1,823 combat aircraft and the U.S. Marines' 552 combat aircraft[14] are likely to be more important to the balance of air power now that the Soviet Union is only permitted to have 5,150 combat aircraft west of the Urals (as agreed in CFE I), or only 60 percent of that (a possibility for CFE II).[15] Our game will help determine which of the forces outside the CFE process most threaten the continuation of that process and could also help with suggestions for unilateral steps that would prevent such blockage.

Indeed, it is possible that one or both of the teams in our game may refuse to cut the number of any items that are treaty-limited because of fears with regard to the domestic political fallout from such a step. As a consequence, the game could result in a process of reciprocation confined only to those units not limited by treaty. This in itself would be a useful and interesting experience that would help us to understand the dynamics of the disarmament process.

The West may have a particular interest in encouraging the disarmament process to take the form we suggest. So far, the CFE process has been confined to items in which the Warsaw Pact has a numerical superiority. Were the CFE parity principle to be applied to categories that have thus far been left out—such as naval forces or aircraft based outside Europe—we could find that it would be Nato that would have to make the biggest cuts. Unilateral reductions of forces not constrained in CFE I may be preferable to the inclusion of those forces in a wider CFE II treaty.

How Big Should the Reduction Be? The choice of 20 percent as the goal for both sides to reduce their mutual threats has been considered with some care, although it is by no means immutable. On the one hand, it was thought that a much larger reduction—say 40 or 50 percent—would be more appropriately modelled as the result of two or more successive rounds of the game. On the other hand, a small reduction—say of 5 or 10 percent—would make it too easy for the participants to avoid really tough choices. During a period when expectations of deep cuts, and even demilitarisation, are growing, it is necessary not to be too gradualist in one's approach. Moreover, the rules of the game mean that the 20 percent reduction is rather less than it may appear. It will thus lead to a reduction in existing force levels and budgets of substantially less than 20 percent. First of all, not all of the 20 percent need be taken by cutting existing force levels. Some can be taken by abandoning plans for new weapon systems or by redeploying forces in a more reassuring way.

Secondly, each team is obliged to reduce the threat which the other team perceives from its forces by 20 percent. In doing so, however, the first team should be able to choose its reductions so that, according to its own weighting of its own forces, they add up to substantially less than 20 percent of its total military capability. For unless both sides have identical views of the effectiveness

of each others' forces, both teams can, to some extent, focus cuts on items that they feel are less effective than the other team believes, thus removing sources of unjustified "worst case" threats. On the other hand, both teams should find it easy to preserve those forces which they value more highly than their opposite number—such as those capabilities that are viewed as primarily defensive, or those capabilities not primarily intended for use in a Nato/Soviet confrontation.

As a result of these factors, each side should emerge from the reciprocation game feeling that it has obtained a "bargain"—a threat reduced by 20 percent in return for a reduction in its own capabilities of, say, 10-15 percent. Not only would this powerfully illustrate that military security between potential antagonists need not be a zero-sum game, but the more pronounced the gap between the two sides' views of what really matters militarily, the greater the gains that are likely to result from this trade.[16] Thus, rather than asymmetry blocking the process of arms control and complicating the means to achieve simple parity in everything, it actually aids the process of making reductions mutually acceptable.

It May Not Lead to Mutual Defensive Defence. The game can work to produce more stable force structures, in which both sides specialise in the defence, only when this end is the objective of at least one of the two sides. If both teams want, above all, to maintain capabilities for the destruction and/or conquest of the other's territory—whether for purposes of aggression or deterrence—by substantially weighing those defensive elements of the other side's forces which are most likely to thwart an attack, they may choose to preserve their own offense at the expense of their own defence.[17] This could result in a progressively more unstable military structure in which the incentives for pre-emption would increase rather than decrease.

It is unlikely that the game would develop in this way. There is no evidence that either alliance has any plans for military expansion in Europe. Moreover, both sides have expressed a willingness to remove the potential for attack from their conventional forces, either through the CFE process or through unilateral action. In the Soviet Union the explicit endorsement of "defensive defence," as an organising concept for its military forces, has gone furthest, although the concrete moves announced to date still leave substantial offensive capabilities intact. In the West, most governments would maintain that Nato has never had the capability for a strategic offensive into Eastern Europe—thereby placing in doubt whether the West needs to become more defensive. At the same time, however, it was often argued that Nato should not allow Warsaw Pact territory to be a "sanctuary" in war, as this could encourage Soviet leaders to think that, even if an invasion of Western Europe were to fail, they could return to the *status quo ante* at modest cost to themselves.[18]

For both sides, then, there is some ambiguity as to how real their commitment is to possessing purely defensive force capabilities, whether attained unilaterally or bilaterally. One aim of the game would be to test this commitment and its meaning. There is no *a priori* reason why the two teams should move towards "mutual defence" rather than towards "mutual offense." *Inter alia*, the more that either of the teams believe that conventional deterrence depends on the threat of punishment rather than on the threat of denial, the less likely it is that a team will be willing to relinquish capabilities for offense. The best way to determine the balance between these different considerations is to take note of the "revealed preferences" of the two sides in practice.

Forces Not Covered by the Steps? Even though our game allows for a broad definition of what constitutes threat reduction, the *quid pro quo* is that the initiative as to which of these forces to cut is in the hands of the other team. It opens up the possibility that, while making the 20 percent cut in threats specified by one team, the other team could simultaneously be increasing the threat it poses with units from the other 80 percent which it chooses not to constrain. This is a serious problem, and one which our game does not fully address. As in other forms of arms control, successful reciprocal disarmament relies, in the final analysis, on mutual restraint outside the main area of prescribed reductions. If such restraint is lacking, the process could be fatally weakened. However, there are ways by which we can minimise the likelihood of this occurring in our game. Firstly, we assume that a CFE I treaty will be in operation. This in itself increases predictability significantly and reduces options for "breakout" from the reciprocation process.

Secondly, both teams would be told of their option to include some "no-increase" provisions in their threat list. For example, Nato could assign a priority value to Soviet promises not to increase tank production, not to deploy a new type of aircraft carrier, or not to increase the level of readiness of army personnel. The weight given to these "no-increase" commitments would depend on both the threat that any increases would pose and the perceived likelihood that they would occur.

By allowing such fears to be made explicit, the game would also allow the two teams to take credit by allaying them. It could be expected that both teams will collect a certain proportion of points simply by picking up a number of "no increase" tickets.

In order to further strengthen the safeguards against breakout, the game could include the provision that both sides would have to make a statement of any unilateral increases it is making in those areas that are not included in the 20 percent reductions. Such increases would have to be, at least in the view of the team making the increase, politically and technically feasible. Those considering

whether to accept the whole package in Step 4 would then be able to take into account such changes.

These procedures do not offer a perfect solution. They do, however, by making a series of no-increase commitments, allow each side to take credit for assuaging fears of threatening unilateral increases. On the other hand they ensure that neither side will blow such fears out of proportion lest the other team should earn its full quota of points simply by standing still!

Finally, it should always be remembered that, at least in the short to medium term (up to three or four years), the options for radical breakout are rather limited. New production lines can not be started overnight. It takes time to build new bases or redeploy whole armies. Perhaps most crucially, the political will to carry out such increases in a time of general tension reduction may be difficult to achieve.

One genuine concern remains. Both teams may feel that the other is more able to take "breakout" steps than it can itself, due to domestic political constraints. This fear can be removed fully only through practice. The procedures outlined here should, however, help to reduce the fears on both sides that "breakout" by itself can offset the substantial gains made possible by reciprocal disarmament in other respects.

Conclusion

The aim of this paper is to propose a possible structure through which we can think about what unilateral concessions would be most helpful during the coming period of uncertainty in the Soviet/Nato military relationship. In the game outlined, in addition to its use as a forum for analysing what types of unilateralism could work and which will not, it is suggested that both East and West could gain greater understanding of the role that unilateral measures could play in a disarmament process. Results from a trial run played at Stanford University in 1990 illustrate that the game can produce unexpected, but realistic, ideas.

The game suggested in this paper, however, could have uses well beyond the issue of conventional forces in Europe. It might well provide a useful device for helping students gain insight into the complexities of other conflicts, as well as encouraging them to think through potential issues and how they might be resolved or ameliorated.

Notes

1. See T. Allen, *War Games* (London: Heinemann, 1987).

2. S. H. Salter, "Some Ideas to Help Stop World War" (London: Institute for Social Inventions, 1984); see also April Carter, *Success and Failure in Army Control Negotiation* (London: Oxford Univ. Press, 1989), pp. 295-297.

3. See L. M. Lamkin and S. O. Fought, "Teaching about Arms Control," *Naval War College Review*, Winter 1988, pp. 94-104.

4. "Americans and Soviets to Participate in Arms Reduction Simulation," *Update* (Providence, R.I.: Brown University, Center for Foreign Policy Development), January 1990; P. Terrence Hopmann, *Mutual Security and Arms Reduction in Europe*, mimeo, 1990; and discussions with Terrence Hopmann.

5. It would be possible to use pre-CFE forces as one's baseline. This, however, might invite either team to speculate on the worthiness of identifying a threat that could be a force soon removed from the treaty. Moreover, the assumption that CFE I is in place makes it easier for participants to accept our assumption that in subsequent reductions the principle of equal reductions should be followed.

6. For the sake of realism, each team should also be chaired by a superpower player with a casting vote.

7. The difficulties of applying common definitions of "old" and "new" to Nato and Pact equipment are well-illustrated in C. Levin, *Beyond the Bean Count*, Senate Armed Services Subcommittee on Conventional Forces and Alliance Defense, 1988, pp. 29-44. Here the relative quality of Pact and Nato equipment is assessed by dividing weapons of both sides into several "generations." The categorisation decisions are, however, open to question and unlikely to be easily agreed upon by the two alliances.

8. This is the central thesis of "defensive defence" advocates in both East and West. See, for example, A. Kokoshin et al., *Problems of Ensuring Stability with Radical Cuts in Armed Forces and Conventional Armaments in Europe* (Moscow: Progress Publishers, 1989).

9. With the possible exception of the years from the beginning of the Cold war up until the death of Stalin in 1953. This conservatism has been far less marked outside Europe, where the United States, the Soviet Union, France and the United Kingdom have all been involved in several military conflicts since World War II.

10. The major weapon systems excluded from the process—surface-to-air missiles, antitank-guided weapons, and mines—are often considered to be primarily defensive in nature.

11. More precisely, one side will resist further symmetrical cuts in any single category of weapon when the marginal gains from such cuts (reduced threat, financial savings) are outweighed by the marginal losses in defensive capability.

12. See T. Mason, "Airpower in Conventional Arms Control," *Survival*, September-October, 1989.

13. Stephen van Evera makes this argument in relation to the start of World War One. He argues that the perception of offense dominance by Germany led it to believe that it was possible to win the war quickly; and it led all the major powers to mobilise quickly during the pre-war period, despite the fact that such mobilisation might make war more likely. "Had Europe known that, in reality, the defense dominated, these dynamics might have been dampened," S. van Evera, "The Cult of the Offensive and the Origins of the First World War," *International Security*, Summer 1984.

14. See "Cutting Conventional Forces: An Analysis of the Official Mandate, Statistics, and Proposals in the NATO-WTO Talks on Reducing Conventional Forces in Europe" (Brookline: IDDS, 1989).

15. U.S. Navy and U.S. Marine combat aircraft numbers include 269 and 49 aircraft in store respectively. International Institute for Strategic Studies, *Military Balance 1990-91* (London: Brasseys, 1990, pp. 20-22). The ceiling on Soviet aircraft under the CFE Treaty is taken from *Survival*, January-February 1991, p. 83.

16. This suggests a parallel with the simple Ricardian theory of comparative advantage in trade in which the great merit of economic relations between countries is that they allow each country to specialise in what it does best, i.e., one grows apples, another oranges, and they trade so that each has both apples and oranges. I'm not sure I want to stretch this parallel too far!

17. By contrast, many nuclear arms control analysts see the strengthening of the dominance of the offense over the defence as stabilising. However this does not imply a rejection of the theoretical desirability of mutual defence dominance. Rather, it results from the enormous destructive effect of nuclear weapons, which makes offense dominance a fact of life.

18. See S. Huntington, "Conventional Forces and Conventional Retaliation in Europe," *International Security*, Winter 1984.

Ψ

Robert E. Lee: Maker of Morale

Lee Birthday Address
19 January 1926

Douglas Southall Freeman
Edited and Annotated by Lieutenant Commander
Stuart W. Smith, U.S. Navy

Douglas Southall Freeman was born in Lynchburg, Virginia, in 1886, received his Ph. D. in history from Johns Hopkins University in 1908, and was the editor in chief of the Richmond News Leader *from 1915 to 1949; but it was his work as a military biographer that brought him to national prominence.*

Freeman's four-volume study of R. E. Lee *(1934-35) was awarded the Pulitzer Prize; his three-volume study of* Lee's Lieutenants *(1942-44) became "required reading" in military circles; and his seven-volume study of* George Washington *(1948-57) was also awarded the Pulitzer Prize. With these books Freeman rendered an achievement stunning in its scope and scholarship, and earned for himself a permanent place in American letters.*

Freeman wrote this address for his father, Walker B. Freeman, who was the commander in chief of the United Confederate Veterans in 1925-26. It was delivered to the annual "camp fire" of the Confederate Veteran Camp of New York. The elder Freeman, who was seventeen years old at the beginning of the Civil War, served in the ranks of the Army of Northern Virginia throughout the entire war and was present at the surrender of the army at Appomattox on 9 April 1865.

In reading this address, then, it is important to remember that the words are Freeman's but the voice is that of an old soldier speaking to his comrades of their chieftain, and of a war that ended some sixty-one years before.

YOU ARE VERY gracious in your welcome. I thank you for your cordial greetings, and I count myself fortunate to be able to celebrate this nineteenth of January, this "Saint's Day" of the South, among those who have not forgotten the land of their fathers' love.

Commander Smith is the former managing editor of the *Naval War College Review*. This address is an excerpt from his book, *Douglas Southall Freeman on Leadership*, which was published by the Naval War College Press in December 1990. (For a review of the book, see page 133.)

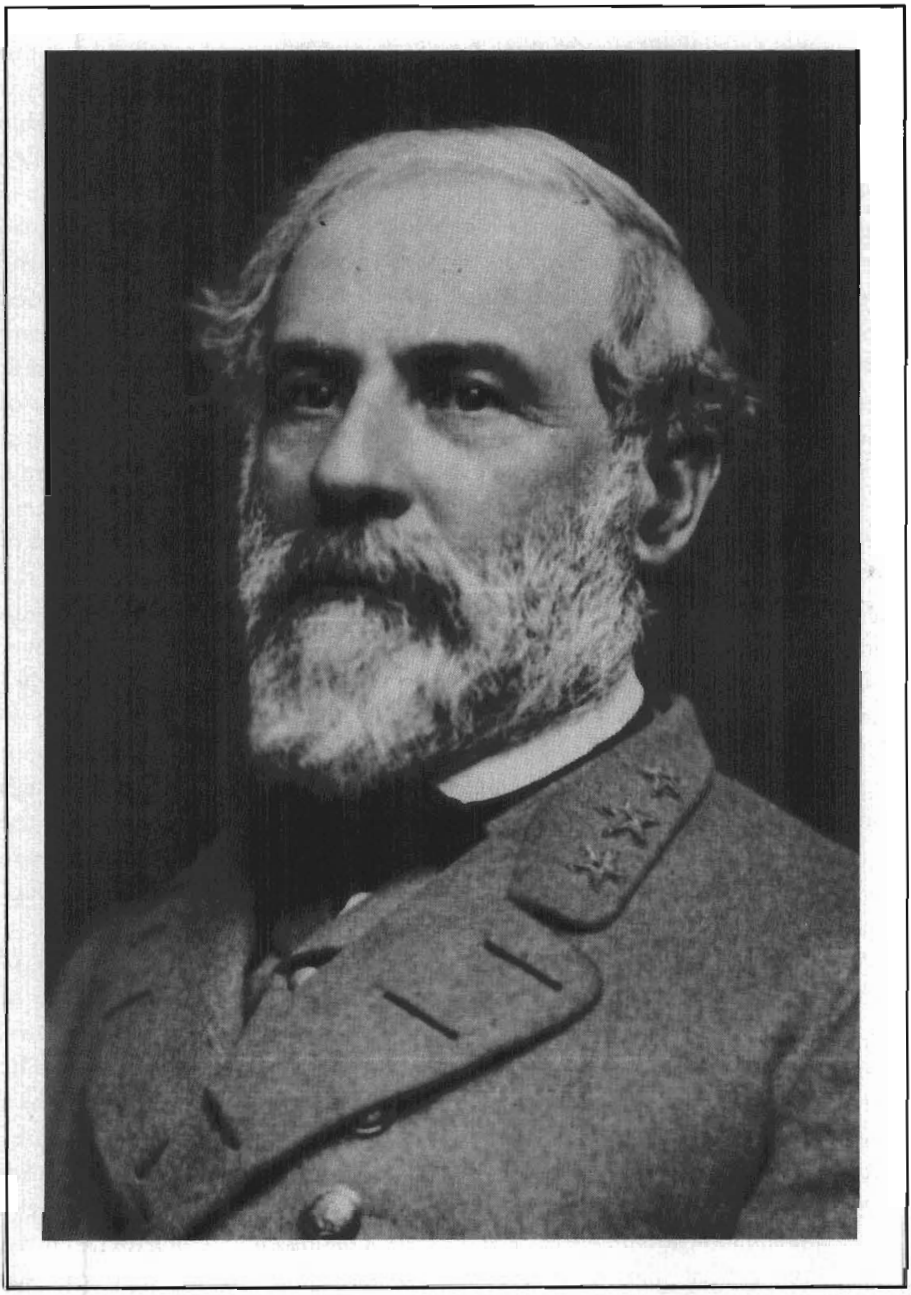
In one of the volumes of reminiscence by an officer of high rank in the war with Germany, I recently read a critical estimate of his general in chief, a man well known in fame to all of you. His superior, this soldier wrote, was admirable but not magnetic, a man to inspire respect but not a man to arouse enthusiasm.

It seems to me that these phrases very fairly represent the opinion most of the ex-servicemen have of the generals under whom they fought in France. I have heard these young soldiers praise their captains often and their colonels frequently, but never their generals, and I have heard other veterans of earlier wars note the same fact. How deeply significant this may be, I cannot say. Much of the lack of enthusiasm of these fine fighting men for their chiefs doubtless is due to the size of the armies engaged in the World War. A single corps of the American Expeditionary Force was larger than the Army of Northern Virginia ever was, except for a short time in 1863. There was one brigadier general of infantry to every ten thousand infantry in France, whereas in "our" war, comrades, the brigade was four thousand men at full strength and, after the bloody battles of 1864, seldom actually numbered more than one thousand effectives. I have seen Confederate brigades, in the last dreadful days of our struggle, with fewer enlisted men than were counted in a full company of the AEF. Very naturally, officers in those days were closer to their men and better known to them than in 1917–18.

Even so, I cannot but contrast the difference between the ex-serviceman of the World War and the Confederate soldier in his opinion of the general whose orders he obeyed. It is a constant amazement to me to perceive how high a morale the American Expeditionary Force displayed, when I reflect that the morale of that army was based on enthusiasm for a cause, whereas in the Confederate army there was enthusiasm for a cause plus enthusiasm for the men who were the chief exemplars of it. With these boys, our sons and grandsons, the cause was America; with us "old boys" it was the South—and Lee.

The contrast suggests a theme I do not think has ever been treated in any of the books on the war, except as it may have been hinted by Swinton and by Henderson.[1] That theme is the morale of the Army of Northern Virginia in its relation to him whose birthday we are here to observe.

When Swinton came to describe Appomattox as it appeared to a man who greatly admired the Army of the Potomac, he had praise for those bluecoats who followed us from Petersburg through the mud and rain of that torrential spring. You and I join in that praise, for the Army of the Potomac was a great army. It had patience. It acquired the very quality of high morale about which I am speaking. It was, in fact, at that time a magnificent host. I often caution my sons, and I warn you, young gentlemen, you sons of Confederate veterans: Never speak lightly of the Army of the Potomac. After it became seasoned, it was the *second best* army in the world. Modesty forbids us Confederates from suggesting which was the best army then in existence.



ROBERT E. LEE

This photograph was taken in Richmond in early 1864. In keeping with his simplicity of manner, Lee wore the three stars of a Confederate colonel without the encircling wreath of a general officer.

Swinton, I say, had high praise and natural partiality for Meade's army,[2] but when he told of the ninth of April, when we marched out into that field near Appomattox Courthouse,[3] even Swinton was moved. And in an unforgettable passage he apostrophized the "incomparable infantry"—incomparable he called it—of the Army of Northern Virginia.

I well remember a still higher tribute paid us that day. We were coming on that dreadful field under General Gordon, and we were passing through the open ranks of a superb brigade of infantry. We were ragged and we had no shoes. The banners our army had borne to the heights of Gettysburg were bloody and in shreds. There were less than eight thousand of us with arms in our hands, though they were bright and burnished still. Great divisions, the very names of which had once spread terror in the North, were reduced to small regiments, and regiments to squads. We were only a shadow of an army, a ghost of an army, and as we marched in tattered, hungry columns between those magnificent straight lines of well-fed men, faultlessly armed and perfectly equipped, most of us wished, as our great chief did, that we might have been numbered with the fallen in the last battle. But, as we marched forward with heads up—no Confederate soldier ever held his head any other way and no Southerner ever should—as we marched forward in the silence of that sodden field, suddenly I heard a sharp order sent down that blue line, and on the instant I saw that whole brigade present arms to us—to us, the survivors of the Army of Northern Virginia. It was a Maine brigade, comrades, and I confess to you that though more than sixty years have passed since that gray April noon, I never hear the name of that state but that I feel a certain swelling pride as I reflect that there was an army good enough to deserve that salute—and another army magnanimous enough to give it!

What made Swinton call us the "incomparable" infantry of the Army of Northern Virginia? What made Chamberlain's brigade present arms that day in that field by Appomattox Courthouse? It was, I think, primarily because of that army's accomplishments. And what made those accomplishments possible? The morale of the army, I say, and its leadership. The two were bound up together. I doubt if even General Lee could have won so many battles for three unforgettable years, and against such odds, if he had not had the material he did. I am sure the army would not have gained the plaudits it has ever since received if it had not had a Lee to lead it and to inspire its morale. The process, I say, cannot be divided. An army is seldom better than the general who has commanded it through an open campaign. A general is never greater than the troops he leads. It was so with Caesar and his legions. It was so with Richard the Lion-Hearted and his crusaders. It was so with Lee and the Army of Northern Virginia, and Grant and the Army of the Potomac. It was true of Pershing and the AEF, and it will be true, I suspect, of the army that fights the last Armageddon and ends forever the bloody strife of a race led away at last from selfishness.

Victory, of course, was responsible for much of the high morale of Lee's army and of the other Confederate forces, whose deeds were as valiant and oftentimes were performed in the face of greater difficulties than we encountered. All honor to our comrades in Tennessee and in the Gulf states, at Vicksburg[4] and on that stubborn resistance to Sherman's march![5]

Yet see how quickly that morale was attained, and how few were the victories necessary to develop it! The army that faced McClellan in front of Richmond in June 1862 consisted largely of recruits brought together under a system of elective command, which is about the worst system that can be devised. That army had not passed through the test that weeds out those general officers who are unsuited for the field. General Lee was not popular then. His campaign in West Virginia had not been successful, and he was regarded as a desk-soldier or as an engineer.[6] Within less than four weeks after he assumed command, he led that green army against a force that was far better equipped and outnumbered him in the ratio of five to three. He took the offensive, fought five battles within seven days, lost 23 percent of his army, and finally saw his adversary get away to the cover of gunboats at Harrison's Landing with fewer losses than he himself had sustained. Within two months thereafter, he had the morale of the army at such a pitch that he was able to divide his forces, to converge on the field of battle with Jackson desperately engaged when Longstreet arrived,[7] and to win a victory there at Bull Run as brilliant as any he ever gained, except perhaps at Chancellorsville. He not only did this, but he was absolutely confident of his army. When it seemed that day at Second Manassas that Jackson's lines would certainly break before Longstreet went into action, Lee never showed by so much as the quivering of an eyelash that he doubted the arrival of Longstreet's troops. An officer who stood nearby him—the story has never been printed—was atremble with excitement during those tense moments, and when at last he heard the roar of Longstreet's guns and knew that the troops that had come through the gap were there to relieve the pressure on Jackson, he could scarcely control his enthusiasm. General Lee heard the guns open, of course, but he sat where he was without the slightest gesture or change of expression. Do you wonder we had confidence in a man who had that much confidence in us? And do you not agree that there was something besides victory to give the army such morale that it could win so difficult a victory as that before Lee had been in command three months?

What else was there in the relations of general and subordinates, and what was there in the heart of men and leader that made possible not only that campaign but also those that followed through the months, till hunger wrecked us and our horses there in the trenches of Petersburg in the winter of 1864-65? I am not sure any man can ever give the full answer to that question, for in seeking it we are carried into subtleties of spirit that defy the analyst. We were a peculiar lot, we Southerners of 1860. I think we were never characterized

better than by an old comrade of mine, a cavalry captain and long a congressman,[8] who often said that no man could ever understand the exploits of the Army of Northern Virginia unless he realized that we were a voluntary association of gentlemen organized for the sole business of driving out the Yankees. Nothing else mattered greatly—of privation or of hardship, of long marches or of lonely vigil. We *were* volunteers and we tried to be gentlemen, in camp and in battle, and it *was* our business to drive out the Yankees. We were rather intent upon discharging that business.

"Marse Robert" knew that and knew that he could trust us to the limit of human endurance. He did not have to ask whether we *would* do a thing. You will not misunderstand when I say that he had only to inquire whether the thing *could* be done—whether it was humanly possible for the numbers he assigned to the task. If it *could* be done, he knew it *would* be done! Hence the extreme daring of his campaigns, as in that awful time in June 1864 when he ordered General Beauregard to take those of us who were on the south side of the Appomattox and to hold Petersburg, no matter at what cost. Our line was so thin that in the night, as the bullets kept raining into the stump behind which I crouched, there was not another soldier in sight. The issue was so close that when the artillery was rushed through Petersburg at the gallop, the dust from its dash had not settled on the streets before the anxious people heard the guns open on the enemy. But we held Petersburg. General Lee had told us to.

If he knew he could count on us, we knew we could rely on him, and in our faith in him you have, I think, the third component in the morale of the Army of Northern Virginia. We knew that whatever generalship could accomplish, he would do. We knew he never told us to make a charge unless it had to be made. We knew he never said "hold" unless failure to hold meant disaster to our homes. We were often hungry, but we knew he tried to find us food. We were nearly naked, but we knew he was doing his best to get clothing for us. We were weary oftentimes from the marches he set before us, but were satisfied that he did not call on us to make good his delinquencies. He came daily among us—always the ideal figure of a soldier—and though he never sought popularity by ostentation, when he spoke to us it was with as much of affection as of dignity. I see him now as he looked that awful morning of the seventh of April, 1865, on a hill above Farmville. He had seen all his plans go wrong and all his hopes destroyed. The day before, Ewell's corps had been captured at Sayler's Creek and Gordon's had barely escaped destruction. He must have foreseen what was just two days ahead, but there he sat, composed and reassuring, on his horse. You could see from his manner that his thought was of us, not of himself—of the army's distress and not of its commander's defeat. There was not a tremor in his tones as he told us to form across the hill and to collect the stragglers. Nor was there a word of reproach for those good men whose strength had failed them after five days of hard marching.

All that went into making the morale of the army—the confidence and the memory of victory, the general's faith in the army, the army's faith in Robert E. Lee—all three were exhibited more dramatically at Appomattox than anywhere else in the whole history of the army. As he rode back through Gordon's command, the men thronged about him, as you know, until the road was blocked and he had to speak to them.[9] And what was his message? All about them and nothing about himself! "I have done the best I could for you, men," he began—and I think he need scarcely have gone on and told us we could go home on parole. If he had done his best, that sufficed. His best was enough for us, even in the hour of the death of the Confederacy.

I think our answer to that statement of his was best given by one of the men about sundown, after General Lee had left the apple orchard and while he was on his way to headquarters.[10] The boys all crowded about him, as they had when he came from the McLean house[11] to the apple orchard. They started to cheer, and after a little they wept as they looked into his face and saw his anguish for them. And then, one man—a bearded private who doubtless had followed him through it all—cried out to him in words that ought always to be remembered. "General Lee," he said, "General Lee, I love you as much as ever!" In that warm pledge, the Army of Northern Virginia, on the scene of its last engagement, did homage to the leadership of Robert E. Lee. He has been dead these fifty-five years, and we who were "his boys" are now old men. We represent an age that has ended, and we speak for a society that has been well-nigh submerged among alien millions who know not of our yesterdays. Men speak now of another struggle when they refer to "the war." Some of them are so mistaken as to say we should no longer talk of

"Old, unhappy, far-off things
And battles long forgot."

But whatever may have been taken and whatever may have been denied, thank God we have our memories—of the civilization that is no more, of the army whose rear guard we are, of the days when the name of that army made Southern hearts beat up. Nothing in life can take those memories from us, and I doubt if death does. And always in the center of the picture, as radiant as in life, our old chieftain sits astride his horse. Always he rides at the head of the mighty column that memory brings back from the grave, and we acclaim him still as we did in those distant days: General Lee, we love you as much as ever!

Notes

This address is filed in Freeman's papers at the Library of Congress. The original text, a double-spaced rough with handwritten corrections, is in the Speech, Article, and Book File (Container 127). The finished version, a brochure apparently printed for the occasion, is in the Special Correspondence and Biographical File (Container 123). Freeman did not assign a title to this address; the title that appears here is mine.

1. William Swinton was the author of *Campaigns of the Army of the Potomac* (New York: C. B. Richardson, 1866; revised and reissued by Charles Scribner's Sons, 1882). G. F. R. Henderson was the author of several

books on the Civil War, the best known of which was *Stonewall Jackson and the American Civil War*, 2 vols. (London, New York, etc.: Longmans, Green & Co., 1898; new impression published 1904). Freeman once described this book as follows: "Where the careers of Lee and Jackson run together, this book is and will doubtless remain the one best account of their campaigns, and this apart from the fact that as a literary biography it is a masterpiece" (*Lee's Dispatches to Jefferson Davis, 1862-1865*, New York: G. P. Putnam's Sons, 1915, p. xlii).

2. George G. Meade assumed command of the Union Army of the Potomac on 28 June 1863, three days before the battle of Getrysburg, and remained in command of that army until the war's end. However, it was Ulysses S. Grant, commanding general of the Union armies, who directed the movements of Meade's army during the Virginia campaign of 1864.

3. "The ninth of April" was the day Lee signed the surrender terms. The surrender ceremony, during which the Confederate army "marched out into that field near Appomattox Courthouse," took place on 12 April. Neither Lee nor Grant was present at the ceremony. Accepting the surrender for the Union was Brigadier General Joshua L. Chamberlain; at the head of the Confederate column rode Major General John B. Gordon.

Chamberlain was commissioned in the Twentieth Maine Infantry in the summer of 1862 and took command of that regiment in June 1863, one week before the battle of Gettysburg, where he won the Congressional Medal of Honor for his defense of Little Round Top. In the summer of 1864 Grant promoted Chamberlain to brigadier general as a result of his performance at the battle of Petersburg (this was the only field promotion Grant made for gallantry in action). For a marvelous portrait of Chamberlain, see Michael Shaara's *The Killer Angels* (New York: David McKay Co., Inc., 1974), a superb novel of the battle of Gettysburg as told through the eyes of some of the principal commanders there.

One of the most capable of Lee's commanders, John B. Gordon began the Virginia campaign of 1864 as a brigade commander and ended it as the commander of the Second Corps. In the third volume of *Lee's Lieutenants* Freeman describes Gordon as follows: "A certain freshness, a boldness, a freedom, an originality in sound military design are Gordon's. He differs from most orators in that his actions outdo his exhortations. . . . No wonder an admiring soldier says of him: 'He's most the prettiest thing you ever did see on a field of fight. It'ud put fight into a whipped chicken just to look at him!' "

f4. Vicksburg, Mississippi, a Confederate stronghold high on a bluff overlooking the Mississippi River, fell to Union forces under Grant on 4 July 1863. The fall of Vicksburg combined with the Confederate defeat at Gettysburg marked the beginning of the end of the Confederacy. The Mississippi River was now in Union hands, the Confederates had lost men that they could not replace, and the stage was set for the major events of 1864: the assignment of Grant to command all the Union armies, his movement against Richmond, and Sherman's movement against Atlanta.

5. William Tecumseh Sherman assumed command of the Union armies in the West in succession to Grant, who in March 1864 was called east to take command of all the Union armies. During the next few months Grant moved against Richmond and Sherman moved against Atlanta, which fell in September 1864. On 15 November Sherman's forces left Atlanta on their "March to the Sea," which ended with the capture of Savannah on 21 December. Sherman was a proponent of "total war," and this march was characterized by the widespread destruction of civilian property.

6. Lee was thrust into command of the Army of Northern Virginia on 1 June 1862, when General Joseph E. Johnston was wounded at the battle of Seven Pines, just outside of Richmond, Virginia, capital of the Confederacy. When Lee assumed command, the Union Army of the Potomac, under General George B. McClellan, was within seven miles of Richmond.

Lee's service reputation rested on the following foundation:

- He graduated second in the West Point class of 1829, having served as adjutant of the corps during his senior year. In his four years at West Point, he had not received a single demerit.
- He spent the next twenty-six years in the Corps of Engineers. During the Mexican War he served with great distinction on the staff of General Winfield Scott. He displayed great skill and bravery during the invasion of Veracruz and the subsequent advance of Scott's army to Mexico City, rising in rank from captain to brevet colonel. Scott later referred to Lee as "the very best soldier I ever saw in the field."
- From 1852 to 1855, Lee served as the superintendent of West Point (a position then required by law to be filled by an engineer officer).
- In March 1855 Lee transferred from the staff to the line when Secretary of War Jefferson Davis appointed him second in command of the newly established Second Cavalry regiment. These duties took him to the frontier (primarily Texas), where he was involved in many courts-martial and an occasional skirmish with Indians or bandits. In October 1857 Lee began an extended period of leave to return to his home in Arlington, Virginia and settle the complicated estate of his father-in-law. He was concluding this leave in October 1859 when he was assigned to command of the forces hastily assembled to capture John Brown and his men, who had seized the Federal arsenal at Harpers Ferry, Virginia.

• During the first year of the Civil War, Lee served briefly as the commander of Virginia's forces and then as military adviser to President Davis. In late July 1861, Davis sent Lee to western Virginia to coordinate Confederate operations against two Union armies. During the next three months, Lee reorganized the Confederate forces and managed to halt the Union advance, but the only offensive operation of the campaign failed when Lee's forces became bogged down on rain-slickened mountain slopes. From November 1861 through February 1862, Lee supervised the fortification of the Georgia and South Carolina coasts. He returned to Richmond in early March 1862.

As a result of this background, Lee was regarded as a staff officer rather than a field commander; and his appointment to command the Army of Northern Virginia was greeted with skepticism in many quarters.

7. Thomas J. ("Stonewall") Jackson and James ("Old Pete") Longstreet emerged from the battles of Seven Days, Second Manassas, and Sharpsburg as Lee's best division commanders. In October 1862 the Army of Northern Virginia was organized into two corps: Longstreet was given command of the First Corps and Jackson the Second.

In the first volume of *Lee's Lieutenants* Freeman describes Longstreet as follows: "Blunt and roughly bantering, he is not ill-natured. If he is not brilliant, in strategy or in conversation, he is solid and systematic. . . . The secret of his power is his incredible nervous control. He never gets tired."

And of Jackson Freeman writes: "Mediocre teacher at the Virginia Military Institute and a former professional soldier, age 37, profoundly and, some say, fanatically religious, with a precise regard for discipline and army regulations. A man he is of contrasts so complete that he appears one day a Preshyterian deacon who delights in theological discussion and, the next, a reincarnated Joshua. He lives by the New Testament and fights by the Old."

8. Identified in Freeman's later lectures as Captain John Lamb. Lamb commanded a Virginia cavalry company during the war and served in the House of Representatives from 1897 to 1913.

9. This scene occurred just after Lee's surrender to Grant (their meeting having concluded at about 4 o'clock in the afternoon).

10. After speaking to Gordon's men, Lee retired to a nearby apple orchard, where he clearly wanted to be left alone. He departed the orchard just before sunset to ride back to his headquarters, about a mile away.

11. Grant and Lee negotiated the surrender of Lee's army at the home of Wilmer McLean in the village of Appomattox Court House. McLean's former home in Manassas had been occupied by the Confederate army and seriously damaged by Union artillery fire during the first battle there. In the spring of 1862 McLean had moved to Appomattox to escape the war, but to no avail. The war in Virginia ended as it had begun: in McLean's parlor.

Ψ

It is well that war is so terrible—we should grow too fond of it!

Gen. Robert E. Lee

The Influence of Hyman Rickover on a Navy

Captain Timothy Somes, U.S. Navy (Retired)

Duncan, Francis. *Rickover and the Nuclear Navy: The Discipline of Technology.* Annapolis, Md.: Naval Institute Press, 1990. 374pp. $28.95

ADMIRAL HYMAN G. RICKOVER had a remarkable influence on the United States Navy for several decades. It is indisputable that his influence continues long after his death. This carefully researched book seeks to prove that Admiral Rickover's control was due to his unrelenting insistence on two main ideas: ". . . that the professional civilian and military managers . . . had to rely on management precepts because they did not know the industry or project they were trying to run"; and ". . . that the future of mankind depended upon its control of technology." According to Francis Duncan, Admiral Rickover believed that an understanding of ". . . how he ran an important, complex technical program—one having civilian as well as military application—might contribute to the safety of a world increasingly dominated by technology."

Mr. Duncan's approach is to show how Naval Reactors—Admiral Rickover's carefully conceived headquarters organization—tightly controlled every aspect of the naval nuclear propulsion plant program. Through a series of chapter-length "essays," the reader learns how Rickover profoundly influenced the design and development of three major programs: the submarine program, the naval surface ships program, and the civilian reactor industry. The last essay may prove particularly instructive in its demonstration of how Rickover gained tremendous leverage and control by strategically positioning himself in both the U.S. Navy and the Atomic Energy Commission bureaucracies in the earliest days of the nuclear reactor programs.

The U.S. Navy's submarine fleet in the years after 1957 is the point of departure for this volume. Mr. Duncan briefly reviews the early years of the

A professor in the National Security Decision Making department at the Naval War College, Captain Somes headed the War College's Joint Military Operations department for a number of years before his retirement from active service. A veteran of many years at sea in the submarine force, he commanded the USS *James Monroe* (SSBN 622), and was deputy commander, Submarine Squadron Ten.

naval nuclear propulsion plant program, then moves on to discuss Rickover's efforts to challenge other technologies already in use. (Mr. Duncan and Mr. Richard G. Hewlett have extensively chronicled the naval nuclear propulsion plant program in their book *Nuclear Navy 1946-1962.*) The chapter "Submarines" focuses on the years when new nuclear propulsion plants were being introduced. The S5W plant of the *Skipjack* and *Thresher-Sturgeon* attack submarines and Polaris submarines, the S6G plant for the *Los Angeles* class of fast attack submarines, and the S8G plant for the Trident missile submarines are briefly covered. Greater attention is given to Rickover's largely frustrated efforts to develop electric drive as an alternative to main reduction gears in the propulsion drive train of submarines. His extensive efforts to develop what ultimately turned out to be one-ship classes (*Narwhal* and *NR-1*) also receive special attention.

As Mr. Duncan states in his preface, this book deals only with Naval Reactors, Admiral Rickover, and the naval nuclear propulsion plant program. The reader will be disappointed who hopes to better understand why the U.S. Navy designed and built the *Los Angeles* class submarine with more speed but without many of the operational features that were found to be essential components of its *Sturgeon*-class predecessor. There is only a brief discussion of the ". . . *adhoc* panel that Admiral Thomas H. Moorer, Chief of Naval Operations, had established on the recommendation of Rickover . . . to assess the configuration of the high-speed submarine, evaluate missions, and examine the proposed equipment." Of particular interest are the author's words that "Members of the committee were hardly rubber stamps, to be easily manipulated by Rickover or anyone else. But they were confronted with a choice between Rickover . . . and a senior official in the . . . defense establishment . . . . They chose Rickover." "To get the speed, the panel sought every possible way to save weight. One method was to decrease the depth the ship could reach." Many submariners, including this reviewer, believe that far more than weight was sacrificed by Rickover and the "*adhoc*" panel.

Duncan includes a lengthy discussion of the events leading up to the loss of the USS *Thresher* in 1963 and the subsequent soul-searching investigations. This is the most satisfying chapter of the book for this reviewer. The author details the very complex engineering problems that faced the navy when building the *Thresher.* She would be the first submarine of a class combining nuclear propulsion with depth capabilities significantly exceeding those of previous submarines. There would be radical departures in weapons handling and firing characteristics along with the introduction of a major advance in sonar technology, all placed in a hull shape that was designed for speed underwater. All this had required major innovations to integrate many of the ship's systems, only some of which had been used earlier. As Duncan carefully documents, problems with key systems remained unresolved. High-pressure air and hydraulic systems,

and the extensive salt water systems with silver-brazed joints subjected to full submergence sea pressure, were sources of major concern to Rickover and the Naval Reactors engineers.

In discussing the intense investigations following the *Thresher's* loss during post-shipyard sea trials, the author carefully attempts to present all of the potential causes of the tragedy. This reviewer, having served for years in submarines designed and built in the same manner as the *Thresher*—each severely restricted in depth until finally "subsafed" years later—agrees with Rickover's assertion that underlying problems ". . . of design, manufacture, inspection, quality control, and operating procedures were being ignored . . ." and were major factors in the *Thresher's* loss. However, the author's bias as an "official" Naval Reactors historian is evident. He spends several pages ensuring that the reader understands Rickover's belief that his procedures for reactor plant operation could not have contributed to the loss of the ship. That these procedures were "so rigid as to be a factor in the loss . . . was an incomprehensible argument" to Rickover. This statement contrasts with the author's earlier discussion of a major flooding casualty in the diesel submarine *Barbel*. That submarine survived because her motors were immediately able to make full power. The reviewer's personal experience in the years following the *Thresher's* loss in drilling relentlessly the urgently revised procedures for returning the nuclear propulsion plant to full power after a casualty shutdown at sea, suggests that Naval Reactors engineers concluded that overly rigid procedures were in fact a factor in the *Thresher's* loss. Many submariners also reached that conclusion. It seems to this reviewer that there was plenty of fault throughout the navy, including the Naval Reactors, for this tragedy. The author would have served the reader better had he not tried to suggest otherwise.

The reader, expecting to be thrilled by tales of nuclear surface ships in combat when reading the chapter title "Surface Ships—First Battles," will be disillusioned. The emphasis in these chapters on surface ships is nicely summed up by the author's subtitles, "The Alliance with Congress" and "Legislating Nuclear Power into the Fleet." These chapters describe how a technically specialized officer in the middle of a very large United States bureaucracy became sufficiently powerful to wield a major influence into every part of that bureaucracy. The author carefully details the progressive stages of how Rickover attempted to force the Department of Defense to propel all major combatant ships with nuclear power. The author's careful research, direct access to the Naval Reactors files, and his presentation, ensure the value of these chapters. But Rickover's desire to have all major surface combatant ships propelled by nuclear power had to compete against the reality of cost. Other points of view are evident both in the author's comments and in the final outcome. As the author points out when discussing the Aegis class cruisers, the ratio of cost was about two gas-turbine propelled ships for one nuclear propelled ship. For many that seemed a high

price to pay for the "tactical flexibility" of nuclear power. Implicit (if perhaps unintentionally) in the author's discussion of this issue is the concern voiced by those who were critical of Rickover's power within the navy. The author impels the reader to conclude that Rickover blocked the introduction of gas-turbine propulsion into the U.S. Navy for a number of years. The success of that technology in the fleet a generation later raises doubts about Rickover's ability to be as totally objective as the author suggests.

In a book about the nuclear navy, a chapter about a civilian electrical power generating plant may strike the reader as out of place. But by the time the reader reaches this chapter on the Shippingport power plant in western Pennsylvania, there will be no question that the book is really about the bureaucracy of Naval Reactors and its omnipresent director. This chapter is a classic case study of how an extraordinarily competent, highly skillful, government official can extend his authority into non-government industry. The author paints a sympathetic portrait of how a man whose vision and genuine understanding of the many costs of using nuclear energy to produce electricity influenced a generation of civilians in the field. The author concludes that the contributions of the Shippingport Atomic Power Station to civilian power plants were immense. Among other things, Shippingport demonstrated for the first time the feasibility of pressurized water reactors and light-water breeder reactors for civilian use. Many civilian components were first used there. Practical solutions to such basic problems as radiation safety and reactor control were benefits of the Shippingport initiative. Above all, the author stresses the high standards upon which Rickover insisted, a theme that is the focus of the final chapters of the book. There is little doubt that the reader is supposed to conclude that if these Rickover-dictated standards had been in place throughout the civilian industry in 1979, the disaster at the Three Mile Island nuclear power plant would not have occurred. If this thesis is difficult to corroborate, it is nevertheless convincing for most who have worked in the naval nuclear reactor program. An interesting aspect of this chapter is that Rickover may have stayed in place too long and that his ability to influence events was fading. The author writes, ". . . Shippingport's mission was accomplished, and its importance diminished." Possibly an unintended theme throughout this book is that these words could also be applied to Rickover in his final years in office.

The final section of the book returns to the theme that the author introduced in the book's preface. In three chapters entitled, "The Devil is in the Details," "Independence and Control," and "Discipline of Technology," the reader recognizes that a healthy dose of Rickover's no-nonsense philosophy is forthcoming. It is in these chapters that the author reviews Rickover's frequently controversial method of selecting naval officers and engineers for his programs. Explained are the skillful variety of auditing and monitoring programs by which he often bypassed normal chains of command, consequently exercising enormous

IN MY VIEW . . .

Editor's note: The "point-counterpoint" which follows refers to the lead book review in this month's issue.

"Pilgrims Among the Heathen:" An Exchange

From: Author, *Command, Control, and the Common Defense*
To: Editor
Subj: Review by Captain Wayne Hughes of this book

Part of the fun of writing a book that argues for the tighter integration of joint combat power is anticipating the reactions and counter-fire of a naval establishment which has traditionally viewed joint operations with all the pained ecumenicism of pilgrims forced to make their way among the heathen. Interfaith perspectives have come a long way in the last few years, of course, but every now and then one gets a sense of just how deeply these issues run.

Notice, for example, the choice of words in Captain Hughes's review: "centralized command authority," "unlimited connectivity," "single unified service," and, worst of all, "the F-111." These are codewords for the old arguments about service autonomy, and, twenty-odd years after those events, naval partisans obviously have their own views of the F-111/TFX controversy. But codewords are hardly the best tools for a reviewer to choose, especially if he is trying to provide an even-handed analysis on which others can rely in making their own judgments.

So in fairness to your readers, let me clarify one point which is central to Captain Hughes's review: my perspective on the "question of command." My

book is really an argument for the fact that the most important thing about command is command itself, *not* its ill-named stepchildren: C^2, C^3, C^4, C^4I and all the rest. Closely related to that point is the fact that there is a natural tension in the way that command is exercised in different organizations and at different organizational levels. That tension, which is certainly present within service boundaries as well as between them, strongly suggests that one size really doesn't fit all.

My argument is also that we really don't need a "single unified service:" balanced, well-integrated, joint forces with flexible, interoperable command and control will do quite nicely. The trick is to figure out *who* needs to speak (or exchange data) with *whom* about *what* in order to accomplish the joint mission—a common-sense process that I refer to as the "baseline of interoperability." But no final answer on the interoperability issue is likely to emerge until we get a better handle on the more central problem of joint doctrine, an effort that began in a serious way only in the aftermath of Goldwater-Nichols. Fortunately, our understanding of these principles is certain to be enriched by the lessons of Operation Desert Storm, where combat integration across service boundaries was a key to victory.

Finally, I appreciate the generally favorable tone of Captain Hughes's review, his recommendation that naval officers should read the book, and better yet, his implicit suggestion that they should buy it. On that basis alone there are grounds for absolution. After all, sir, I was a captain once myself.

C. Kenneth Allard
Lieutenant Colonel, U.S. Army
Alexandria, Virginia

From: Reviewer of *Command, Control, and the Common Defense*
To: Editor
Subj: Same as Above

I wrote long before Desert Shield and Desert Storm, and so I'm glad to have the chance to add a postscript. As the detailed returns of what went right and could have gone wrong now roll in (the Navy's Tactical Training Group Pacific briefed here yesterday with lots of both), it is well to keep a little perspective.

The major lesson of the Gulf War on command and control is the obverse of the one that is the root source of all the frustration over C^2 issues that were vented after 1973. The lesson is this: when the nation is blessed with a president and a secretary of defense who play their proper roles (unlike in the Vietnam War) and with a chairman of the JCS and a unified commander who are allowed to play theirs (unlike during Vietnam), if we have congressmen who are restricted

to *their* proper role in the prosecution of a war, and a press corps which has less of an axe to grind, then we have established the basis for overcoming the deficiencies of organization and interoperability that will always exist to an extent, and which despite Goldwater-Nichols surfaced again in the prosecution of the Gulf War. This is so whether we define the war as having lasted seven months, forty-two days, or 100 hours.

That having been said, Kenneth Allard may be proud of his part in fostering Goldwater-Nichols. I am glad to say I think we conducted the war more professionally under the new legislation, and I believe our reluctant dragon, the U.S. Navy, has learned that Jointness is here to stay and ought to be.

Wayne Hughes
Captain, U.S. Navy
Monterey, California

U.S. Policy, Democracy, and Latin America

Sir,

In his article "U.S. Policies Toward Latin America: Much Room for Improvement" (Spring 1990), Captain Jorge Swett states that U.S. policies towards that area are perceived as ill-defined, too broadly implemented to be effective for these diverse nations, and poorly communicated as well. Latin Americans in general, and their governments in particular, feel tossed about by the gusts and gales of policy that blow south from Washington. They find it tough going to stay on a steady course, for they must often seem either becalmed or beset by squalls, often on the basis of thirty seconds on the nightly news.

Few Latin Americans have much exposure to our culture, and to the speed with which public opinion here forms and changes. The multitude of issues that concern the U.S. government and people must be addressed in our foreign policy. President Bush has enunciated the broad basis of these policies in the booklet "National Security Strategy of the United States," March 1990. The vice president's travel schedule also reflects the heightened importance placed on the Latin American region. This is exactly the kind of concrete definition, implementation, and communication of policy that Captain Swett's article recommends. This should help provide a steady base for the growth of regional cooperation and harmony.

In the president's policy statement, the main theme for the Western Hemisphere is the continued growth of democracy. This is stated to be the best way to achieve collective security, social peace, and economic progress. Captain Swett writes to say that the U.S. should reward free market-based economies in

the same way it now seeks to reward democracies. There is no doubt that Chile would have politically benefited from this viewpoint over the last fifteen years. Beyond that, however, Captain Swett does have a real and valid point. Cuba was nominally a democracy before the rise of Castro, but the populace felt all the elections were farces anyway. The people were not empowered to change anything by having an election, and turned to a charismatic political outcast with guns. Also, if the Latin Americans can achieve free elections and democratic government throughout the region, on what basis will these populaces vote? With many governments already having a decidedly socialistic bent, what are the odds that some will follow the Roman model and vote themselves bread and circuses till their economies collapse? And how can the U.S. avoid the suffering and economic threat such events could cause?

Chile has soundly demonstrated the ability of Latin Americans to manage successfully a market-oriented society. Costa Rica has demonstrated the ability of Latin Americans successfully to manage a stable democratic government. The U.S. must work with each country in the region to help it achieve a responsible, representative, and successful government that meets the needs of its people and culture without threatening the U.S. We must encourage and aid sound business practices, as we strive to develop professional apolitical militaries to defend duly elected governments. We must realize that the triad of success is nutrition, health, and education, and help our neighbors achieve these goals.

Captain Swett points out the need for exchanges, education, and professional embassy staffs to improve our communications within the region. One of the issues that we face in our relations may already contain the seed of the cure. The "silent invasion" of the U.S. by millions of Caribbean, South and Central Americans in search of a better life is changing the demographics of this country. It will eventually, relentlessly, change the tempo and tone of our foreign relations in Latin America. As with each other wave of immigrants, our culture will grow stronger, more diverse, and perhaps even a little more compassionate.

Eugene V.L. Vogt
Ensign, U.S. Coast Guard
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Ψ

Naval War Under Sail

by
John B. Hattendorf

Boudriot, Jean. *The Seventy-Four Gun Ship: A Practical Treatise on the Art of Naval Architecture.* Translated by David H. Roberts.
Volume I: *Hull Construction.* 1986. 166pp. $58.95
Volume II: *Fitting Out the Hull.* 1987. 213pp. $58.95
Volume III: *Masts, Sails and Rigging.* 1987. 280pp. $69.95
Volume IV: *Manning-Shiphandling.* 1988. 394pp. $105.95
Annapolis, Md.: Naval Institute Press

FIRST PUBLISHED in France between 1973 and 1977 under the title *Le Vaisseau de 74 Canons*, these volumes became established as the authoritative reference work on the late eighteenth century ship-of-the-line.

Focusing in particular on the French Navy in the year 1780, Jean Boudriot examined in volume one the administration of the ports and dockyards, the work of surveyors and shipwrights, and the materials for shiphandling, dockyard installations, hull timbers, fastenings and caulking. In volume two he examined hull fittings, internal arrangements, ballast stowage, and stores. In volume three, he concentrated on masting, sails, rigging, and maintenance as well as on the general concepts of warship design and the costs involved for a 74-gun ship in this period.

All volumes provide important technical information to naval historians, but most of the readers of this journal will probably be more interested in volume four. It is in this last volume that Boudriot turns from the static to the dynamic. Here he discusses officers and men, command, ship organization, shiphandling, tactics, signalling, and navigation as well as uniforms, food, and life on board an 18th century naval vessel.

Each volume is assiduously researched and illustrated with color plates and line drawings, mostly in Boudriot's hand. Confining his own work to the ship and her equipment, Boudriot complemented his illustrations with Michael

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Petard's depiction of officers and men along with a most informative selection of sketches and drawings, by the 18th century artist Pierre Ozanne, of ships maneuvering under sail.

The French text of Boudriot's study has been widely known for more than a decade. However, this new English translation by David H. Roberts has not only increased the readership of Boudriot's work, but has added a new dimension. Roberts' careful work in seeking out English equivalents in the technical descriptions makes Boudriot's study of French ships a valuable guide for English-speaking students of the age of sail. In addition, Roberts has added marginal explanatory notes of his own and provided a valuable bibliography of French and English maritime dictionaries. All of the English terms used in the four volumes are combined into a 2,500 word vocabulary list and index at the end of volume four.

In short, these volumes are an exceptionally valuable contribution to naval studies, clearly illustrated by Boudriot's drawings and enhanced by Roberts' erudition in nautical terminology.

Crowhurst, Patrick. *The French War on Trade: Privateering 1793-1815.* (Studies in Naval History, Aldershot, England: Scolar Press) Brookfield, Vt.: Gower Publishing, 1989. 251pp. $49.95

At one time, the history of privateering seemed to merge with that of the pirates and buccaneers, edging more toward romantic novels of a swashbuckling past. Much of that has changed through the serious, academic work of Professor John Bromley and his studies of French privateering in the 1689-1714 period. In this new volume, Crowhurst has applied Bromley's approach to a later and less understood period of privateering.

Crowhurst portrays privateering as a form of economic activity that can not be separated from the wider patterns of maritime commerce in which it took place. While others have stressed the role of privateering as either an aspect of naval strategy or alternatively as the work of men seeking an easy avenue to wealth. Crowhurst sees it as something quite different: a substitute for a normal seaborne trade that had collapsed. In the context of the Napoleonic wars, he shows that French merchants felt compelled to invest in these risky enterprises as the war destroyed the great colonial trade and shifted the economic focus of the country from the Atlantic coast on the West to the cheaper raw materials of the Northeast.

French privateering in 1793-1815 was far less effective than it had been a century earlier, although it remained a major feature in the imagination of British merchants and naval leaders. In fact, it was a far less organized and much more diverse threat than the British imagined. It became, as Crowhurst characterizes it, "an elaborate cat and mouse game, in which both the French and English

tried to outwit the other. . . ." Yet in a broader view, the ability of the French to put successful privateers to sea was as dependent upon economic conditions within France as it was on the quality of Britain's attempts to protect her own trade.

While French merchants were motivated to promote privateering because of the collapse in normal trade, it was not a desperate response to that collapse. Merchants invested only modest proportions of their capital in this area and there were far fewer wartime privateers sailing to attack enemy trade than there had been in peacetime trade. Nevertheless, Crowhurst presents some clear evidence that merchants hoped to use privateering as a means to continue the earlier peacetime trade that had been disrupted by the war. Through this means, merchants were trying to provide a regular supply of goods which could be sold profitably.

Privateering was no haphazard activity for those engaged in it, but a carefully planned and well thought out venture. Everything depended on the skill of the managing owner in his choice of a suitable ship, captain, officers, and men, on the captain's selection of a suitable cruising ground for prey, and on good luck as well. At the same time, success in privateering was ultimately controlled by the ability to market profitably the goods captured at sea. Glutted markets and high taxes in France were stronger deterrents than the Royal Navy, although British naval patrols were effective. The British captured some 40,000 seamen in French privateers between 1793 and 1815. Their experiences in British prisons and in prison-hulks afloat mark a fundamental change in the treatment of war prisoners of this period in England. Crowhurst devotes the final chapter of his book to this aspect of privateering, examining the way in which the large numbers of prisoners and the collapse of the prisoner exchange system led not only to longer periods of imprisonment and deprivation than before, but forced the nation which held the prisoners to take the primary responsibility for them, leading to new attitudes in prison policy, design, and management.

Lacking French naval support which could have disputed the Royal Navy's protection of trade, the French privateer was controlled by market conditions. As these began to fail in the Atlantic ports, only the close proximity of English trade to Dunkirk and St. Malo continued to attract seaman, even in moderate numbers, over the full course of the war.

Byrn, John D., Jr. *Crime and Punishment in the Royal Navy: Discipline on the Leeward Islands Station 1784-1812.* (Studies in Naval History, Aldershot, England: Scolar Press) Brookfield, Vt.: Gower Publishing, 1989. 251pp. $54.95

In this volume John Byrn has made a major contribution to the social history of the Royal Navy at the end of the eighteenth century. Adding great depth to

one aspect of a subject which Michael Lewis pioneered more than thirty years ago, Byrn examines naval discipline in one area of overseas operations. He shows that the system used to enforce discipline onboard ship was in fact an extension of criminal law. Arguing against the characterization of naval discipline as a form of inhuman brutality, Byrn shows that it was clearly a rule of law which differed little from the conception and practice of civil law at home.

Byrn shows that while punishment could be used to some extent to bolster and legitimize the authority of naval officers, it was not an unbridled and callous tool for promoting their interests. The brute force which was available to naval officers was sufficient to deter potential criminals, but it alone was not a secure foundation for governing a stable shipboard society. To do that, naval discipline and punishment had to be based on a rule of law closely tied to that generally received and practiced in Britain. In short, naval discipline was a clearly accepted part of the practice of Common Law.

Taken alongside N.A.M. Rodger's, *The Wooden World*, (1986), a study of the social aspects of the navy in the Seven Years' War, Byrn's study of the Napoleonic war period gives further support for the need to examine related issues for other periods in the light of detailed documentary evidence. The similarity of the approaches in these two works, as well as the contrast in their findings, suggests that we still have much to learn about the evolution of shipboard society in the eighteenth century Royal Navy.

Syrett, David. *The Royal Navy in American Waters, 1775-1783*. (Studies in Naval History, England: Scolar Press) Gower Pub. Co., 1989. 250pp. $56.95.

David Syrett's carefully documented examination of British naval operations in American waters during the American Revolution is the preeminent study of this topic, clearly superseding the earlier work by Mahan and William James. Well known for his several earlier works on this period, Syrett focuses this book on why the Royal Navy was unable to crush the rebellion in America by cutting off the flow of arms and military supplies from Europe to the American rebels. The result is a study which transcends the narrow bounds of his historical focus and, while dealing directly with historical facts of this case, touches on some of the broadest issues involving the use of naval power.

In examining his subject, Syrett shows that the issue was more complicated than just a simple naval blockade. He has examined a whole range of questions involving naval strategy and policy including such issues as: the limitations of a naval force in combating a rebellion centered on questions of political rights; the problem of powerful neutrals aiding the rebels; the distribution of naval force when faced with a rebellion and also the threat posed by an international balance

of power; the relationship of land power to sea power; and the very nature of naval power.

Syrett shows that Britain's defeat at Yorktown was the logical outcome of a strategy of scattering troops along the entire length of the American coast without adequate naval forces to protect them from an enemy who had gained local naval and military superiority. The skill of Britain's enemies in this war was matched by British errors. Wartime leaders in London failed to provide for the progressive inability of British commanders to work together in protecting their forces in America. Among the most flagrant failures was the refusal of Admiral Arbuthnot to join General Clinton in attacking the French in their quarters at Newport, Rhode Island. Moreover, British errors continued even after Yorktown. It took many more months for the government in London to understand that this battle was something more than a momentary setback. It was not until the following year that the opposition's attacks in Parliament brought home the point, forcing Lord North's resignation. Even under the new Rockingham-Shelburne Government, ministers failed to understand the need for shipping. For nearly a year after the terms of the peace treaty had been agreed to by the diplomats, British forces remained in New York for want of transports to bring them home.

Both in war and in its aftermath, Syrett shows the failure of the British Government to use its naval forces effectively. Making a valuable contribution to understanding the conduct of the American war, Syrett's detailed study is also an extremely valuable analysis and case study for anyone involved in trying to understand the broad nature of naval power.

Tracy, Nicholas. *Navies, Deterrence and American Independence: Britain and Seapower in the 1760's and 1770's.* Vancouver, Canada: Univ. of British Columbia Press, 1988. 207pp. $18.95

Historians have long seen the naval side of the American Revolution as an exceptional failure in a century of remarkable British naval success. In this book, Nicholas Tracy examines British naval policy in the fifteen-year period from the end of the Seven Years War in 1763 up to 1779 and French intervention in the American rebellion. France played the decisive role in winning the war for America. During the war itself, the British navy's command of the sea failed, but Tracy shows that in the period leading up to its loss Britain's minimalist policy of naval deterrence unwittingly gave France encouragement to intervene. Tracy's argument is a new one which provides a deeper understanding not only about naval policy but, more importantly, how American independence was possible.

In the 18th century, the Royal Navy was the most powerful force at sea and it was Britain's key instrument of coercive diplomacy. For most of the peacetime period that Tracy examines, British statesmen used a system of deterrence in their foreign policy that was explicitly based on the threat of naval force. It was an aggressive policy focused on controlling French action and was carried out in the framework of a series of crises in far-flung areas, ranging around the globe from Honduras to India. Tracy gives a full chapter to a detailed discussion on the Falkland Islands crisis of 1768-1771, which not only provides insight into the basis for British involvement there and background to a 20th century war, but also demonstrates the effectiveness of Britain's deterrent policy based on the threat of naval force.

The rebellion in America did not immediately affect the broad aspects of British policy. However, following the colonists' victory at Bunker Hill in 1775, London officials began to concentrate their effort on a North American military campaign. But at the same time, Lord North's government failed to respond vigorously to indications of French maneuvering. Hoping to avoid a European war completely, instead of confronting France, Lord North sought cooperation and conciliation. He tried to isolate the American problem from European politics and to buy time, even while France went forward with naval rearmament. In the late summer of 1777, military realities finally forced the British government to recognize that it could no longer maintain a dual policy in Europe and North America. Yet the government still refused major naval rearmament, attempting only minimal deterrence and marginal preparation for a European war. Even when news of Burgoyne's surrender at Saratoga reached London, the government continued its conciliatory policy toward France. Ministers in London concentrated their thoughts on how to use military force to pressure the Americans to accept parliamentary concessions and to persuade them to stay under the British crown.

After the declaration of the Franco-American treaty of alliance, however, it was too late for Britain to use her naval force as a deterrent. France had set the pace toward war.

Britain's coercive diplomacy, effective for a dozen years, proved difficult to abandon. Her change to a policy of slow rearmament while avoiding confrontation had two key effects that increased the likelihood of war. On the one hand, her naval strength increased to the point where Britain could prevent the French from injuring her seriously. On the other hand, the change in policy to avoid confrontation led French officials into thinking that Britain no longer had either the will or the means to block French ambitions.

Tracy's well-researched study of mid-18th century British affairs is full of insight on the nature of naval deterrence in peacetime and, as a valuable and instructive case study, deserves to be read in that context by current policy makers.

Coad, Jonathan G. *The Royal Dockyards 1690-1850: Architecture and Engineering Works of the Sailing Navy.* (Studies in Naval History No. 1, Aldershot, England: Scolar Press in association with the Royal Commission on the Historical Monuments of England) Brookfield, Vt.: Gower Press, 1989. 399pp. $89.95.

At one time the industrial and administrative side of naval history was completely ignored while excessive attention was given to heroes, battles, and tactics. Recently a number of historians have attempted to redress this imbalance. For many years, naval historians have been aware that the Royal Navy was the largest industrial establishment in Britain during the age of sail. Yet few scholars have ever seen, or thoroughly appreciated its architectural heritage, still in use by the navy, but which even today often lies hidden from public view. Jonathan Coad offers the first fully documented book-length study on the architectural history of naval establishments ashore. Ranging from the well-known Admiralty building in London's Whitehall to the remote dockyards, ordnance and victualing yards, naval hospitals, and schools, Coad has examined a wide range of buildings constructed in the 160-year period between 1690 and 1850. Using original plans and contemporary illustrations as well as 19th century and modern photographs, he has compiled a richly illustrated book that opens an entire new dimension to naval history.

Storehouses, sheds, workshops, admiral's quarters, and chapels fall within his purview. He even takes a serious look at the design of humble boundary walls as he examines the more glamorous entry gates that punctuate them. In the course of his survey he outlines the changing character of the navy in this period, devoting considerable attention to such related subjects as the process of cordage manufacture, the introduction of steam power and its application within the dockyards, the manufacture of weapons, the preparation of food supplies, and the care of the sick and wounded. Throughout, Coad deftly explains the most complex technical achievements in a manner thoroughly comprehensible to the layman. In the process, one discovers many new names and new aspects of the development of the Royal Navy. With this book in hand, no one can fail to understand with increased depth and clarity the problems of ship construction and repair and also the full range of the navy's industrial establishment in the age of sail.

In this volume, Coad has emphasized the surviving buildings of this period as he links architectural history to the navy's industrial enterprise, Naturally, much of the text deals with the main bases in Britain, but he provides some fascinating material on the overseas bases at Gibraltar, Minorca, Malta, Antigua, St. Lucia, and Bermuda, linking colonial structures to architectural and industrial patterns at home. In doing this, he provides interesting and useful maps that show the location of main buildings at each dockyard. The maps are not easily found except by the most careful reader; they are identified in the Table of

Contents only as "Figures" and are bound together in mid-volume. Nicely printed in blue, black and grey, they are a fine complement to the illustrations. Moreover, the first four pages make a fascinating visual statement that is most worthwhile for the strategic historian to consider. A series of maps on these pages illustrate the Atlantic, the western Mediterranean, the Caribbean, and the Indian Ocean. On them are shown the location of the Royal Navy's major battles fought between the years 1702 and 1827. Interestingly, nearly every battle was fought relatively close to land and no great distance from some kind of base.

Shommette, Donald G. and Robert D. Haslach. *Raid on America: The Dutch Naval Campaign of 1672-1674.* Columbia: Univ. of South Carolina Press, 1989. 386pp $32.95.

In 1672-74, England and the Netherlands were at war. Unlike the wars of the 1688-1815 period, which we remember more clearly, the third Anglo-Dutch war saw England allied with France against the Dutch. When we do think about that war today, we usually focus on the naval battles in the North Sea, remembering particularly those involving De Ruyter at Sole Bay in 1672 and at The Texel and Schooneveld in 1673. The author of the typical account of the war may point out in passing that the Dutch recaptured New Amsterdam briefly but that in the peace treaty it was returned to the English and resumed the name of New York. Although it was a significant incident in American colonial history as well as an interesting episode in naval affairs, no one has heretofore written a detailed narrative in English of the Dutch campaign in America during 1672-74.

In 1672, Commander Cornelius Evertsen The Younger sailed from Zeeland with a small squadron of warships on a secret mission to capture the English East India Company's fleet off St. Helena. After receiving intelligence that an English squadron had sailed to protect St. Helena and the East India fleet, Evertsen turned to the secondary objectives of his expedition, an attack on French and English colonies in America. It resulted in the Dutch invasion of Chesapeake Bay and Virginia, capture or destruction of two hundred English and French vessels, and temporary restoration of New York, New Jersey, and Delaware to Dutch control.

Shomette and Haslach have written a lively tale of these events based on their translation of the 1928 edition of Dutch documents published by C. de Waard in the Netherlands and transcriptions made from the Evertsen papers in the 1920s and deposited in the New York Public Library. Their work in bringing the results of this research work into the English-language literature is a major contribution. Although giving the authors full credit for this, scholars will still be disappointed to find that the story is not told within the broad context of the

best recent scholarship on English, French, and Dutch history in this period. The European background is based on older sources. The 19th century work of John Motley is used, for example, but there is no mention of the more recent English-language background studies by Pieter Geyl, Geoffrey Parker, Herbert Rowen, Stephen Baxter, and Charles Wilson, or of the recent monographs on the origin and conduct of the Third Dutch War. In order to change the usual account of the Third-Anglo-Dutch war, the valuable material which Shomette and Haslach have presented now needs to be interpreted in broad terms.

Starr, Chester G. *The Influence of Sea Power on Ancient History.* New York: Oxford Univ. Press, 1989. 105pp. $16.95

The eminent historian of antiquity, Chester G. Starr of the University of Michigan, is well known to naval historians for his doctoral dissertation on *The Roman Imperial Navy 31 B.C.-A.D. 324* (1941). In his latest book, Starr returns again to naval history, but this time spanning the breadth of ancient history from the Bronze Age to the fall of the Roman Empire. As his title suggests, Starr examines Mahan's ideas on sea power and considers whether they are an appropriate explanation for the role of navies in ancient history.

Using an analytical rather than a narrative approach, Starr begins by noting that classical historians have generally followed Mahan and emphasized the importance of naval superiority. Despite the fact that the sea is the backdrop of events in the chronicles of ancient writers such as Herodotus and Thucydides, a careful consideration of ancient political, social, and economic organization suggests that this is misleading. "Ancient life always and everywhere was rooted in agriculture," Starr writes. Political power was tied to agricultural elements. At the same time, maritime commerce was largely devoted to the transport of luxury goods, not items of necessity for political and military policy. However, from time to time, large urban centers arose (such as Athens in the 5th and 4th centuries B.C. and in Rome from the 3rd century) which required sea-borne grain to survive. Finally, the exercise of sea power required a well organized political structure to support a navy. Throughout the period up to 500 B.C., governmental forms were generally too amorphous to do this. Thus, Starr argues that sea power was not an important element during the overall course of ancient history, but rather a spasmodic factor which on occasion became a critical force. Even in cases such as Carthage, which dominated the western Mediterranean for centuries, and Athens, which has been a paradigm of sea power's utility, sea powers were ultimately defeated by land powers. While it is true that the enemies of Athens and Carthage had to go to sea to defeat them, the victors' strength was ultimately from the land.

Chester Starr presents a rational and convincing argument for his case against the application of Mahan's ideas to ancient history. The publishers have written on the dust jacket that "this innovative study provides an important corrective to Mahan's thesis, both as applied to ancient history and to modern strategic thinking." One must certainly agree that it does correct interpretations of ancient history, although a nonspecialist in that area may have long wondered why Mahan's thesis has been applied so uncritically for so long. In this regard, the book is not so innovative as the publisher suggests. Historians working in a variety of other periods have in the past twenty years been increasingly critical in their views of Mahan and his work. As a corrective to modern strategic thinking, Starr's work joins that of a number of others who have begun to point out how modern historical research provides a basis for reevaluating naval theory. In particular, one can see here the inappropriateness of indiscriminately applying Mahan's ideas as a general explanation of the role of sea power.

Stevenson, Robert Louis. *St. Ives: The Adventures of a French Prisoner in England.* (Chapters XXXI to XXXV by Jenni Calder. Research by R.J. Storey) Glasgow, Scotland: Richard Drew Pub., 1990. 299pp. $4.99

When Robert Louis Stevenson died in 1894, he left the manuscript of *St. Ives* unfinished. Set in the time of the Napoleonic Wars, it is a plain, but exciting, adventure story. It centers around the Viscount Anne de Keroval de St. Ives, a Frenchman held as a prisoner of war in Edinburgh Castle—his escape into the Scottish countryside and his love for Flora. Stevenson left very few clues except for a few chapter titles as to how he planned to end the novel. We know, however, that he was very concerned with trying to get the historical setting right and the details of the period correct. Immediately after Stevenson's death, Arthur Quiller-Couch finished the novel and published his version in 1897. In recent years, Bob Storey became intrigued by one of the chapter titles, "The True-Blooded Yankee," and began to think about the possibility of an alternative ending based on a closer look at historical fact.

Storey's research showed that there was in fact an American privateer operating in Scottish waters in 1813-14 and that her name was the *True Blooded Yankee.* Owned by a Rhode Islander living in Paris, she sailed out of Brest and raided Islay, a place that the Stevenson family knew well. Speculating that Stevenson may have read about this incident in his research for the period, perhaps even reading George Coggeshall's account of the vessel in the latter's 1856 history of American privateering, Storey persuaded Jenni Calder, the author of *RLS: A Life Study,* to write a new ending to the novel. Calder has woven Storey's research (summarized in the introduction) into the adventures recounted in Chapter 34, taking account of additional evidence about the ending

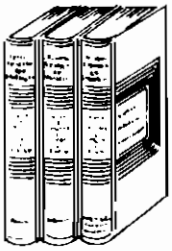
gleaned from Stevenson's correspondence and his other papers. Together, Storey and Calder have revived this adventure tale with a colorful and convincing ending that brings to the fore a hitherto obscure bit of American maritime history.

Ψ

Request for Information

Statesmen and Seapower of the Nato Alliance. Information is sought on the whereabouts of senior officers and statesmen of the Nato alliance who concerned themselves with the role seapower plays and has played in the successful working of the alliance and in its interconnected ways of securing the interests of member states against aggression. The investigator would welcome any and all suggestions about memoirs, diaries, tapes and photographs, books and articles. He would particularly appreciate information not usually in the public realm of university and institutional libraries. The investigator has been named to a Nato Research Fellowship to undertake aspects of this subject with a view to writing a survey history for 1949-1989. He seeks the opinions of informed individuals, particularly those who were active in the processes of ensuring Nato's sea security and of influencing aspects of maintaining, expanding, modifying, or diminishing the naval capability of the alliance. Opinions and suggestions from soldiers and airmen would also be welcome. Please address your initial replies to Professor Barry M. Gough, Professor of History, Wilfrid Laurier University, Waterloo, Ontario, Canada, N2L 3C5; telephone (519) 884-1970, ext. 2260 or 2081.

BOOK REVIEWS



A book reviewer occupies a position of special responsibility and trust. He is to summarize, set in context, describe strengths, and point out weaknesses. As a surrogate for us all, he assumes a heavy obligation which it is his duty to discharge with reason and consitency.

Admiral H.G. Rickover

"The Holy Grail of Command and Control"

Captain Wayne Hughes, Jr., U.S. Navy (Retired)

Allard, C. Kenneth. *Command, Control, and the Common Defense.* New Haven, Conn.: Yale Univ. Press, 1990. 317 pp. $25

This book's title tells us that it deals with big issues. However, since command and control *affect* (but are not themselves) literally everything in military operations, it is important to know which aspects C. Kenneth Allard is discussing. His primary interest is in the policies and politics of top level organization. His title, the *Common* defense, accurately implies his penchant for a more centralized command authority. The dust jacket also indicates this as the issue the publisher regards as the most important.

In the middle of the book is one short section on the elemental concepts of C^2. For perspective the reader will want to know that these are largely illustrated by the views of Colonel John Boyd, Dr. Jay Lawson, and General Paul Gorman. But one must infer Allard's own views regarding the functions of command, and the command and control processes that carry out these functions.

Allard also argues for more and better hardware, and he takes for granted that unlimited connectivity is a good thing: "The great potential of distributed data systems like JTIDS is that they can bring a democratic influence to the flow of battlefield information. . . . The Stinger gunner and the F-15 pilot linked by

Captain Hughes is professor operations research at the Naval Postgraduate School, Monterey, California. He is also author of *Fleet Tactics, Theory, and Pratice.*

JTIDS may have no closer relationship to each other than two researchers browsing through the same stack at a university library; both pairs, however, are effectively using nonhierarchical information regimes that reconcile their individual needs within an overall cooperative framework."

As he continues, Allard exhibits much of his own slant: "The drawback, of course, is that such information sharing can be utterly subversive of the notions of military hierarchy, which, for all practical purposes, considers command and information lines to be identical. In the end, it may well be that the command and information lines may diverge, especially if, God forbid, the reality of the army's Airland Battle ever matches the decentralized combat model called for in its doctrine." The author leads one to sense a change in direction. One must accept that centralization of command and decentralization of control are smoothly compatible, and that these organizational concepts will eliminate *errors*.

By the end of page one Allard has linked the Iranian rescue failure, the Lebanon marine barracks tragedy, and the communications hardware limitations of the Grenada operation with the desirability of the Goldwater-Nichols Act. Ignore the facts that the Iranian rescue mission was planned and executed out of the JCS and that the failure in Lebanon had little or nothing to do with organization, technology or doctrine.(A friend who was in a position to see the contemporaneous machinations of senior Pentagon staff officers, congressmen, and journalists said to me, "Whaddayamean, the National Command Authority? The NCA is not one mind inside a box at the top of the organization chart; it is a hydra-headed monster.") As to the Grenada operation, Allard all but labels its success as a throwaway. His main point is that communications were imperfect and that the imperfections added energy to the momentum for greater unification.

Two things are clear. The author favors a united effort at the top to achieve greater centralization and a greater information flow through technology that will eliminate or reduce error. Allard is, well, too persuaded by his own rhetoric. Organization and technology help, but they are not solutions. War is a mess. Insofar as command and control are concerned, sound organization and several billions better-spent on C^2 technology taken together are no more than a Seven Percent Solution in creating error-free combat operations. I am reminded of Dorothy L. Sayers, the Oxford scholar and mystery writer. Somewhere she wrote that people like mystery stories because they are about crimes that have solutions. "But," she said, "life's not like that." In response to most of the world's problems we do things, change things, sometimes improve things. But the things we do usually do not eliminate a problem once and for all like a detective who solves a crime. We should all remember that, when we seek the Holy Grail of command and control.

The navy reader especially may be put off by Allard's organizational views in favor of centralization. Early on the author makes much of individual service

personalities and styles, using ideas that were fashioned by Carl Builder and the journalist Arthur T. Hadley. A lieutenant colonel in the army, Allard now serves in the Chief of Staff's office, and he expresses the army's longstanding cultural faith in service unification. Personally I think there are enough cultural differences between the infantry, artillery, and armor to wash away the myth that organizational unity breeds a single society. If one wants a unified service, I offer him the Department of the Navy, which already has its own ground, air, sea, and undersea forces able to carry out every kind of military operation. Within that unity, marines are culturally as different from sailors as they are from soldiers. I would even be so bold as to believe that their cultural differences are not only inevitable but desirable.

I should be more specific about Allard's faith in jointness and centralized decision making. He refers to the story of the notorious TFX, Secretary McNamara's fighter aircraft that was to be shared by the air force and the navy as an example of an aborted attempt to unify the development of defense hardware with a single effort. For this case history he relies on an exemplary source, *Illusions of Choice* by Robert F. Coulam. Allard's account is solid, but goes astray at the end. He says that the development of the air force variant, the F-114A, "went well." In truth, the air force bought only a handful of these fighter-bombers. Worse, Allard attributes the fact that the navy used delay tactics to evade the purchase of the F-111B in favor of the F-14 Tomcat which "altered the airframe, degraded its handling performance, and also added weight to the point that the plane would not be suitable for carrier use." True enough, but naval aviators were not filibustering the TFX as much as they were trying to make a silk purse out of a sow's ear. Coulam, it seems to me, makes this quite evident. In any event, after twenty years in which to compare the F-111A with the highly popular and successful Tomcat, there ought to be no question that naval aviators acted as they did for reasons that are vindicated by the results.

But these and better arguments for and against unified command have long been debated. More to the point, Allard commenced his research in 1984, and, under a Congressional Fellowship awarded by the American Political Science Association in 1986, he participated on Capitol Hill in the events that culminated in the Goldwater-Nichols Act. The organizational arguments that he advances strike me as those that were appropriate *before* the new law and its phenomenal effects. Unless he is arguing for further massive centralization, much of the book is now out of date. "How are we doin' now?" would have been a more pertinent approach.

In sharp contrast, Allard's detailed history of JTIDS is a sympathetic account of the difficult and tortured development of a very complicated and ambitious program. Because of its many stages and variants, JTIDS, like the NCA, might also be called a "hydra-headed monster"—but this beast is technological, intended to distribute a panoply of information. JTIDS is a communications

system, if communications is defined with sufficient breadth; it is a C^3 system; if C^3 is defined in that useful and increasingly common way, "communications *for* command and control." Allard describes the evolving skills, attitudes, and genuine military and economic interests of the air force, navy, army and marine corps (some united and some badly disjointed); and of the secretaries and deputy secretaries of defense (with emphasis on two technically skillful and devoted assistant secretaries of defense for command, control, communications and intelligence—Dr. Gerald Dineen and Donald Latham of the Office of the Joint Chiefs of Staff); and of key congressmen and staffers, who for once were patient and supportive. Allard's wise and thorough discussion extends for fifty-one pages—the tale is impossible to compress further—and is worth the price of the book. A cynic could use JTIDS as another horrible example of "interservice rivalry," but there is none of that in Allard's narration.

In addition one finds two solid reviews of navy and army-air force [!] tactical communications. Particularly instructive is the *intra*service army debate over Air-Land Battle and its associated doctrine and technology. The army debate illustrates two things: first, that rivalry within a service can be just as vigorous, and in this reviewer's eyes, just as vital to combat effectiveness, as any that goes on across services. Second, it illustrates the difficulty of deciding what does and does not come under the umbrella of "command and control," for Air-Land Battle is not so much a debate over C^2 as it is over the conduct of modern war on the land and above it.

Naval officers should read *Command, Control, and the Common Defense.* Writing as someone sympathetic with the Goldwater-Nichols Act's objectives, I offer it as a way—usually a painful way—to illustrate how the navy often walks its own path. Our paranoia may be justified by opinions like Allard's, but there is no gainsaying that the boundary between land and sea must not be a boundary between service domains, because the reach of sensors and weapons of war has become too far and too deep. It is a commonplace of war to guard against enemy attacks in the seams of your command authority. One of the great seams has always lain along a coastline.

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Seabury, Paul and Angelo Codevilla. *War: Ends and Means.* New York: Basic Books, Inc., 1989. 306pp. $19.95

This book proved to be a surprise. It was not written for military and defense professionals, although many of them will find it of special interest. The intended audience for the book is the generation of Americans who have been "trained to live as if military matters were a spectator sport, whose popular culture gives the impression that violence belongs exclusively to the past or to lower forms of life, and whose university curricula make it well-nigh impossible to put one's self in the shoes of history's protagonists—

or of those caught in the middle." As such, one might expect it to be a simplistic and sophomoric piece of work; instead, it is a stimulating book of unexpected scope, covering how wars start, how they are fought, and how they end.

The authors are distinguished political scientists, and both have intelligence experience. They demolish many currently fashionable illusions about war. Their book is the kind that one wishes could be forced into the psyches of every American political leader, policy maker, academic, and social commentator. If that could be done, one would expect the quality of decisions that impact America's future to be improved dramatically.

The text is filled with an abundance of judicious and enlightening historical and contemporary examples that reveal much about the nature of war, some of which, as Americans, we must consider highly embarrassing because they point up our dumb decisions so clearly. The book begins with the meaning of war (later treating the concept of a "just war") and of "peace." It addresses the causes and justifications put forth for past wars. It explores the political and material conditions (weather, terrain, logistics, technology, etc.) of battle, and how the fog of war affects battle. Requirements to win on land, at sea, and in the air (including space) are discussed with the panache of a Clausewitz or Machiavelli: also covered are military operations in the nuclear age. The often neglected topics of political warfare in both large and small wars, and intelligence operations and special operations as well, also receive attention. The authors conclude with considering what outcomes are desirable after a war and how they might be achieved.

For most military specialists, much of the material in this book will be familiar. However, there are a number of interesting and not so well known historical tidbits. In addition, this is the kind of book one wants to know personally so that it can be recommended to friends, students, and others who don't seem to comprehend how important the study of war is for real and lasting peace.

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Gray, Colin G. and Roger M. Barnett, eds. *Seapower and Strategy*. Annapolis, Md.: Naval Institute Press, 1989. 383pp.

This is the book I was looking for throughout my year as a student at the Naval War College, and have been ever since. What Colin Gray and Roger Barnett have done is combine history and strategy into a cohesive whole—so that, for once, the past really is prologue, the present is understandable, and the future has some direction. They do not do it alone, which makes the book even better.

The work is built around ten themes that are worth summarizing here.

- The natural condition of the land is to be politically controlled.

• The natural condition of the sea is to be uncontrolled.

• States seek to control the seas in order to affect what is happening on the land.

• The principles of war, the lessons of strategy, and the manner of combat as these have been developed in the context of land warfare should not be carried over uncritically into maritime strategy or warfare.

• The offensive is the stronger form of combat at sea.

• Land power must contend with more "friction" than must sea power.

• Sea powers and land powers throughout history often have had great difficulty in reaching the enemy's center of strategic gravity to force a favorable decision.

• Sea powers and land powers place strategic confidence in their respective traditional military instrument of excellence.

• Over the course of history many countries have maintained large armies, but those that have built and provided for large navies number ten or fewer.

• The United States is a highly unusual case of a continental-size and, effectively, strategically insular, sea power.

The book, after a statement and discussion of these themes in the Introduction, is, like all of Gaul, divided into three parts. Part I is aptly called "The Basics," and contains three chapters. (All chapters are individual essays.) In the first, Colin Gray lays out the fundamental differences between sea powers and land powers, the difficulties they have engaging each other decisively, and some solutions to these difficulties. John Gooch revisits the concepts of sea power from the perspectives of Mahan and Corbett in Chapter 2. He seems to prefer Corbett (could they both be English?). The third essay is a brilliant piece by Wayne Hughes on the impact of technology and tactics on strategy, both historically and currently. This may seem to some out of place alongside with the other two, but it is worth remembering that the capability to win battles is fundamental to a successful strategy. With these three chapters the stage is set for a walk through the past.

Part II consists of seven essays addressing maritime warfare from the Peloponnesian War through World War II. Barry Strauss covers Athens and Sparta, Al Bernstein looks at maritime strategy in the Punic Wars, Alberto Coll discusses the wars between England and Spain at the end of the sixteenth century, Robin Ranger covers the protracted series of Anglo-French wars from the late seventeenth through the early nineteenth centuries, Williamson Murray examines naval power in World War I, and, in the last two chapters Jeffrey Barlow deals with the Atlantic and Pacific campaigns of World War II. I found Part II the best individual section of the book. The essays appear to have been written specifically for the context of this book. Each provides a historical survey of its respective war and a strategic analysis as well. It is from these

strategic analyses that the ten themes of the book seem to be drawn.

Part III carries forward from the end of World War II to the present. Colin Gray kicks off by discussing the role sea power plays today in the defense of the Western alliance. In the following chapter Roger Barnett contrasts this with Soviet maritime strategy. Barnett with Jeffrey Barlow, provides readings of declassified and unclassified U.S. Navy documents addressing naval strategy from the end of WW II to the present. It is a wonderful chapter that illustrates both the continuity and the durability of U.S. naval thinking over those four decades. In Chapter 14 Barnett attempts to treat the dichotomy of maritime and continental strategies as a matter of emphasis, i.e., as complementary not competitive matters. In the last chapter Gray and Barnett combine to summarize themes and offer some pointers for the future.

This book is the most thorough and well-balanced discussion recently published of the complex issues surrounding the relationship of sea power and strategy. Thankfully it makes no attempt at force-building or sizing naval forces. It is about the utility and nonutility to a nation of effective naval forces, whatever the composition of those forces might be. This book is for the serious reader, but not solely for the professional strategist; there is much for the general public to make use of as well. Indeed Part I, "The Basics," makes an excellent primer for the novice, while the "Contemporary Maritime Strategy" discussions of Part III will challenge the national security specialist. "Strategy and History" in Part II keeps everybody honest.

The Maritime Strategy of the U.S. Navy (or, as some call it the Maritime Component of the U.S. National Strategy) that emerged in the 1980s has a thousand fathers, but Roger Barnett is one of the few with a legitimate claim to that relationship. Both he and Colin Gray have been in the forefront of the defense of that strategy for some time. This book is clearly the capstone of that defense. But it is much more, because it is not so much about *the* Maritime Strategy as it is about maritime strategy. Therefore, it belongs on the desk of every war college student and every fleet planner, and in every Washington office with responsibility for national security affairs. I would wager that Admiral Chernavin has already read it.

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Cable, James. *Navies in Violent Peace.* New York: St. Martin's Press, 1989. 155pp. $45

Navies in Violent Peace is a summary and update of Sir James Cable's many writings on naval diplomacy. With five books and numerous articles on the topic, Cable is the most prolific and perhaps the most insightful authority on the role of navies in peacetime. To a great extent, this new volume represents the collection of his wisdom, and is therefore both an excellent

introduction to and fast-paced survey of naval missions infrequently addressed: gunboat diplomacy, showing the flag, "estate management at sea," and suppression of pirates and terrorists. Not simply justifying the maintenance of navies in peacetime, the author attempts to place these missions in a context of the use of navies in limited and general war. The general conclusion, if the book can be said to have one, is the acknowledgement of a paradox: although built for war, navies are used more frequently as diplomatic instruments in peace. By definition, the outbreak of an actual war represents a failure of the peacetime diplomatic-deterrent mission.

Even for readers familiar with the topic, Cable's book is particularly refreshing because of its non-American perspective. The author is more than willing to question the premises of the Maritime Strategy—but on a historical rather than ideological basis. His concern is that a maritime campaign can never be kept limited or non-nuclear because of the fact that naval vessels, unlike land forces, are symbols of national sovereignty. If one accepts the premise that "nuclear war at sea offers overwhelming advantages to the Soviets," the Maritime Strategy may appear to have less of a deterrent effect than presumed. Caution is advised before nations gamble their maritime power on a single role of the "iron dice." Navies are worth more, the author suggests, as political or diplomatic tools than as actual weapons, and risk to them should be weighed carefully. Cable's arguments are not quite an apology for Admiral Jellicoe's choice at the Battle of Jutland, but one sees the shadow of the "risk theory" in them.

But his real concern is that governments do not realize the full impact of navies on peacetime diplomacy and may therefore be willing to sacrifice maritime capabilities on the altar of budget cuts. His unspoken target is the British parliament, and his favorite example of the advantages of a navy that has out-of-area capability is recovery of the Falklands by the Royal Navy and Royal Marines. With such arguments it would appear that he opposes such cuts. However, his language—in that typical British fashion—is understated: Cable admits that "countries only concerned to defend their own coasts against seaborne attack might prefer to sacrifice a small navy to strengthen their air force or even, as some countries already do, to let their sailors man coastal artillery or otherwise stand guard ashore." His conclusion is that, in truth, with the exception of the superpowers only Britain and France possess ocean-going navies. With this in mind, Cable hints at the implications of the difference between British and French deployments, quoting Rear Admiral J.R. Hill, RN: "The French pattern . . . has been to maintain rather low-capability forces permanently in such areas as Djibouti and the southern Indian Ocean, while the British have deployed balanced forces of several

powerful warships about once a year on peripatetic tours." Which style of deployment is more effective is a question that should have been developed more fully.

While certainly worthy of its audience, there are certain flaws in this book that are probably more apparent to its American than its British readers. These flaws are the result of the author's reliance on *The Times* (of London) as his primary and often sole source for details of current operations, whereby journalistic exaggerations are used to buttress his theoretical arguments. For example, discussion of the costs of long deployments and limits upon naval reach elicits the comment that "in 1980 the nuclear-powered carrier *Nimitz* managed 100 days at sea in the Indian Ocean, but discipline suffered among her crew." This reviewer "managed" around 120 days in the *Ranger* in the following years but saw no such extraordinary discipline problems. Of course, Cable's favorite source for American naval theory is the U.S. Naval Institute *Proceedings*, "in spite of some stylistic eccentricities . . . a journal of the highest standards." Who are we to disagree?

A particularly strong area of the book is a discussion on piracy and terrorism at sea; Cable concludes that the maritime nations are not doing enough to suppress piracy in Southeast Asia. In contrast, the U.S. Navy's capture of the terrorists of the *Achille Lauro* is portrayed as a successful employment of naval force in a situation with considerable potential for political conflict. The final chapter, on naval arms control is the weakest, but perhaps this simply reflects the ambiguity of the topic. As Cable points out, treaties affecting navies can always be interpreted vaguely. The Soviets now openly refer to the *Kiev* as an "aircraft-carrying cruiser," yet it passes through the Montreux Convention-controlled Dardanelles without Turkish protest. So much for treaty restrictions on warships.

Since *Navies in Violent Peace* is the latest and best *brief* treatment of the peacetime role of navies, it should be sought out and read. Unfortunately, it is expensive for only 155 pages. However, the book's brevity and its need for more detailed American source material should only encourage the author—and perhaps some among its readers—to attempt a more definitive version.

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Hattendorf, John B. and Robert S. Jordan. *Maritime Strategy and the Balance of Power: Britain and America in the Twentieth Century*. New York: St. Martin's Press, 1989. 373pp. $55

There is more to the dust jacket of this book than meets the eye. Bernard F. Gribble's fine oil painting "The Arrival of the American Fleet at Scapa Flow, 7 December 1917, being Greeted by Admiral Beatty and the Crew of HMS *Queen Elizabeth*"

symbolizes the great links that Britain and the United States have enjoyed, and continue to enjoy, as sea powers. After years of hostility, and two wars (the Revolutionary War and the War of 1812), these great sea powers on either side of the Atlantic have held together the balance of power against continental world power aspirants. Taken together, their naval histories have much in common as do their maritime strategies, which in these years of Nato have become one. The purpose of this collection of essays is to examine the similarity in the Anglo-American perspectives of great-power maritime strategy and of the role of navies in maintaining a balance of power.

To a large degree the purpose of this book has been fulfilled. The work contains some truly brilliant contributions from the brightest and the best who concern themselves with such things. The first chapter belongs, appropriately, to the late Norman Gibbs and is a reissue of his classic "Origins of Imperial Defence," an account of the organization of defence planning by imperial Britain to 1914. John Gooch and Robert S. Jordan follow, with studies of how Britain organized for war and for peacekeeping. Taken together, these three chapters form a minihistory of British planning for security on and over the seas. Robert S. Jordan, in his preliminary statement of the book's purpose, questions whether Britain and the United States could ever have complementary maritime strategies: "In truth," he writes, "there never has been room enough in the world for coexisting British and American empires, a simple balance of power relationship and so, although logically there should have been intermittent warfare between the two English-speaking maritime Powers, no war has occurred since 1812." This is a curious way of explaining the complementary interests of the two powers in the nineteenth and twentieth centuries: it is a maxim of world history that the Royal Navy allowed the Monroe Doctrine to be as successful as it was in Latin America in the nineteenth century; in addition, as statesmen in London and Washington knew, the business of the two powers was peace for the purpose of profit. The peaceful settlements of the Oregon, Texas, San Juan, and Alaska boundary disputes are examples enough of this.

The fact of the matter is that the two powers had more in common with one another than has been admitted by their diplomatic historians, and even by their maritime strategists. But Captain Mahan knew this, and thus the collection of chapters on maritime theory in the twentieth century (on Mahan, Corbett and more recent thinkers including Wylie, Rosinski, and Eccles) shows the similarities of the two countries in their basic theoretical understanding of the broad uses of sea power. Here our best thinkers on these matters—Barry Hunt, Donald Schurman, and John Hattendorf—cover the waterfront; Hattendorf's more recent perspective is significant in that it lays down some operating principles for

sea powers in times of war *and* in times of peace, the latter almost always forgotten in the rhetoric of statecraft, or dismissed in a simple line.

The third part of this book addresses the topic of "Anglo-American Rivalries and Coalitions." It contains useful essays (all of them starting points for more extended treatment, I should think) by Paul Kennedy, Kenneth McDonald, Malcolm Murfett, and Marc Milner. This is the core of the book, not because it is comprehensive (for it is not) but because it suggests the larger theme that our editors had in mind. Britain and the United States had interests in the security of the seas in common; strangely enough old national rivalries frequently stood in the way of their cooperation, an age-old and ongoing story that has lessons for the future. The last section is entitled "Planning for a Future War in the Nuclear Age." It contains essays by Eric Grove and Geoffrey Till on Anglo-American strategy in the era of massive retaliation (to 1960) and by Joel Sokolsky on the same for the era of flexible response (since 1960), on fleet renewal and maritime strategy in the 1980s by Robert Wood, and a concluding summary by Hattendorf and Jordan which says it all: "It is still a wise admonition to choose one's allies wisely and to conserve one's enemies carefully."

This book was well worth doing, and is a credit to its editors and the publisher. It will long be the source that strategists and naval theorists refer to for collective wisdom on the themes of maritime strategy and, to a lesser degree, alliance politics. In future, whether in times of war or peace, students of international affairs would do well to remember that seemingly contending rivals have a lot more in common than meets the eye, and that partners in maritime preeminence can hold together the Trident of Neptune.

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McLaurin, Ronald D. and Chung-in Moon. *The United States and the Defense of the Pacific.* Boulder, Colorado: Westview Press, 1989. 353pp. $45

This is a systematic and generally positive politico-military analysis of the security posture of the United States in the Pacific basin. Starting from the premise that the U.S. has been a Pacific power for more than two hundred years, it advances a careful argument that the present U.S. employment of significant political, economic and military resources to defend the present Pacific order is both necessary and appropriate. Although the authors recognize that the massive American investment in Pacific security has allowed Pacific states to focus their resources on other issues, they maintain that the security of the Pacific is no longer dependent upon U.S. actions alone. Regional security must be and is dependent upon the full participation of all

Pacific nations that have a vested interest in the current order.

The focus of the book is on the military element of the U.S. role in the security of the Pacific region, but it does not attempt an analysis in onerous detail. It provides, rather, a coherent broad-brush view that is often lacking in more detailed analytical works. To explain U.S. strategic decisions, the authors carefully review U.S. national interests and defense posture in the Pacific, focusing on the capabilities, intentions, and will of the Soviet Union, North Korea, and Vietnam as the major threats to regional stability. From this foundation they then provide an overview of U.S. strategic thought as a basis for subsequent discussion of the structure and deployment patterns of U.S. military forces. To their credit, the authors avoid the temptation to dwell on the details of weapons systems or extensively enumerated orders of battle. In successive chapters on the navy, air force, and army components of the U.S. Pacific Command, the authors focus on major organizational elements of these forces, emphasizing missions, readiness, sustainability, and modernization.

The review of the foundations and facts of the current U.S. defense posture in the Pacific is interesting, but the real strength of the book lies in its chapters which analyze the security relationship of the U.S. to the individual nations of the Pacific. Because the U.S. defense concept for the Pacific requires forward deployment of American forces in and around the countries along the Asian rim, the authors assert that the security relationships the U.S. maintains with each of these countries is a crucial component of U.S. defense. Though they acknowledge that these relationships contain significant components in addition to security issues, the authors analyze the strengths and weaknesses of security cooperation as a benchmark of the overall connection. Calling attention to the critical nature of the security ties to the U.S., the authors repeatedly make the point that for all its strength and wealth the U.S. is not a solitary actor in Pacific defense matters. Directing attention to areas of agreement and disagreement on a broad range of security issues including policy coordination, U.S. military activity in country, intelligence cooperation, security assistance, attitudes toward nuclear issues, and potential threats, the authors make the subtle point that U.S. defense is in fact dependent upon the nations of the Pacific rim.

This is a book that should be read carefully by anyone seriously interested in U.S. defense matters. It operates on two distinct levels—as an excellent primer on U.S. defense capabilities issues in the Pacific, and as a careful reminder of the importance of international relations to the security of the United States. By highlighting the range of difficulties the U.S. faces in maintaining effective security relationships with the nations of the Pacific basin, the authors make an important point. American leadership in regional defense matters requires

comprehension, direction, confidence, and constancy. Unfortunately, the U.S. has not always displayed these qualities in its dealings with its Pacific neighbors.

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Tarrant, V.E. *The U-Boat Offensive 1914-1945.* Annapolis, Md.: Naval Institute Press, 1989. 190pp.

Ministry of Defence (Navy). *The U-Boat War in the Atlantic, 1939-1945.* London: Her Majesty's Stationery Office, 1989. 396pp. $49.95

John Keegan once observed that the vast amount of raw data in logs, signals, orders, charts, and the like burden naval history with such a density and volume of facts that the prospect of writing it might "crush the spirit and blind the imagination of all but the most inspired and dedicated scholar." Compared to the more visceral problems confronting those who wrestle with land battles, modern naval "battle" history does present unique challenges. One of them is that the historiographical concept of naval battle has been extended in this century to include episodes that were, in essence, protracted campaigns of attrition waged by submarines against shipping. Far more than the distinct and discrete "battle piece"—like Jutland or Midway—throughout that Keegan had in mind, these campaigns were shaped and driven by hard data: such as loss and tonnage rates, wastage rates of new construction, volumes of cargoes delivered, and serviceability and strength returns. The submarine campaigns of this century were battles writ large, with all the detail of particular actions overburdened by the mountains of data compiled by shore staffs.

That essential truth is amply demonstrated in these two excellent books. However, they do more than simply recount the relentlessly accumulated data in plus and minus columns. They fill large gaps in the English language literature on the U-Boat campaigns. Tarrant's *The U-Boat Offensive 1914-1945* covers the whole sweep of two world wars and provides a remarkably concise yet thorough account of the German U-boat campaigns in both. His discussion of operations is set in a solid strategic context and within the broader context of the evolution of naval warfare itself. His account of the wedding of time-honoured blockade strategy with the new possibilities—and limitations—of submarines in the First World War is tightly focused and marvelously balanced. The same can be said of his handling of World War II in which the complex pressures of strategy, the intelligence war, and the contest between Allied tonnage losses and new construction are clearly set forth, he displays a fine sense for the limits of Dönitz's fleet and for the imperatives of the war of attrition. *The U-Boat Offensive* also provides enough technical detail on U-boat development to carry the story.

Tarrant's text is itself a major contribution to the field, but it is also particularly useful for the enormous volume of essential data that it provides on aspects of the U-boat war. U-boat losses are recorded in detail at the end of each chapter; merchant shipping losses (in various arrangements), new U-boat construction, monthly U-boat strength returns, U-boat specifications, and other tables are provided in appendices. Much of this information is already available in British official and naval staff histories and in out-of-print monographs, and the text is based largely on Admiralty in-house publications available at the Public Records Office in Kew. But it would be impudent to suggest that Tarrant has simply repackaged a familiar tale. Rather, he has produced for the first time a truly comprehensive and scholarly account of the German U-boat arm in the world wars. The worst that can be said is that his standard of documentation is less than the scholarly norm.

The U-Boat Offensive will serve as an essential reference on the U-boat campaigns. However, its significance is surpassed by that of the publication of *The U-Boat War in the Atlantic 1939-1945*, one of the confidential Admiralty in-house sources upon which Tarrant and many others before him have drawn. Long revered by specialists in the field as the Grail for U-boat operations in the Second World War, *The U-Boat War* was compiled after the war under British and American direction by Fregattenkapitan Gunter Hessler, Staff Officer (Operations) to BdU from 1941 onwards and Admiral Dönitz's son-in-law. Among Hessler's able research assistants was a young German naval officer named Jürgen Rohwer, now the foremost authority on the Battle of the Atlantic. Hessler's credentials for writing this account were impeccable and so too were his sources, which included the surviving U-boat logs, the War Diary of BdU, and other captured German records.

Her Majesty's Stationery Office has published a facsimile edition of the original three-volume "BR 305." Its 400-plus pages of text cover deployments, operations, analysis of U-boat activities, equipment, tactical developments, and evaluations of the significance of Allied countermeasures. The comings and goings of individual submarines and "wolfpacks" are described in detail, as are contemporary German assessments of convoy battles. The text is buttressed periodically with maps, diagrams, and charts illustrating strategic and tactical deployments and concepts, and with no less than thirty-two diagrams, published in a separate wallet, from the original BR 305. The diagrams contain a goldmine of data: flow charts of pack composition, strength returns, tonnages sunk, deployments by theatre, and the like. To this facsimile edition the reviser has appended brief notes correcting errors and explaining incidents in the text along with reflections on the latest intelligence revelations, and a brief index.

It is difficult not to indulge superlatives when assessing the importance of Hessler's work and its publication for wide distribution. Nothing like it has ever been available; *The U-Boat War* is without a doubt the most important book ever published on the Battle of the Atlantic.

Amid the welter of books which clutter the field of twentieth century naval history, Hessler's and Tarrant's stand out as essential additions to modern naval libraries. They also demonstrate that naval historians have been neither crushed or blinded by the challenges of their field.

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Terraine, John. *The U-Boat Wars: 1916-1945*. New York: G.P. Putnam's Sons, 1989. 841pp. $42.95

The U-boat campaigns of the First and Second World Wars were as crucial to the Allied victories as any campaign or battle in either war. The battles were fought by young men new to the sea. They fought in small, harsh vessels—corvettes, frigates, and destroyers. Battles were frequent and ugly. Most happened far from the land. Neither panache nor dash prevailed. Tenacity and technology, subtlety, and elemental heroism carried the day. Victory was perceived sooner by the statistician than by the commander.

John Terraine, a noted British military historian, has given us a long and complex history of the U-boat wars. He has conveyed, with a historian's eye for insightful detail and quotation, all the interlocking threads of the campaigns. His special ability is to help the reader appreciate the subtle integrations of tactics, operations, and technologies in those brutal but historic campaigns.

Terraine's coverage of the U-boat actions of the First World War and of developments in the interwar period is important: he shows that the roots of the tactics and weapons of the Second World War were established in those years. Nevertheless, Terraine's descriptive and analytical writing rivets the reader's attention most firmly to the grueling Battle of the North Atlantic from 1939 to 1945.

The convoy arguments—to sail in escorted convoy or to sail alone, hoping to avoid detection—have been discussed by other writers. But Terraine masters this question and its tactical complexities by making the mathematics and its implications obvious. (Readers who want more development of the mathematics are advised to consult P.M.S. Blackett's work in operational analysis.) Terraine observes that the size of a convoy upon the vastness of the sea was so slight that it was not any more likely to suffer detection than was a single ship. Churchill put it: "There was in fact very nearly as good a chance of a convoy of forty ships in close order slipping unperceived between the patrolling U-boats as there was for a single ship; and each time this happened, forty ships escaped instead of

one." Indeed, ninety percent of the convoys sailed unmolested.

Even so, as Nelson never had enough frigates, so the Allies never had enough escort vessels. The ones they did have were nobly sailed and valiantly fought; Flower-class corvettes wrote a large chapter in British and Canadian naval history. They were what Kipling called that "packet of assorted miseries which we call a Ship."

Terraine presents a good account of the development of antisubmarine and escort tactics. Early in the war, the Royal Navy wished to focus its efforts on hunting submarines—forming "cavalry divisions on the approaches," as Churchill said. This didn't work. The solitary submarine was an elusive thing. Hunting for such ships missed the point. "Sinking submarines (was) a bonus not a necessity;" the strategic objective was the safe delivery of war material to Britain, and the escort was best employed to that end. Later in the war as escorts were available, a two-tier system was set up. The primary escort stayed with the convoy while the newly formed support group could be detached to pursue any unfortunate submarine to the death. Both safe cargo arrivals and submarine casualties increased accordingly.

Technology—weapons and counter-weapons—played a major and continuous role throughout the U-boat wars. Sonar, radar, HF/DF, Ultra, MAD, depth charges, torpedoes, hedgehogs, and mines are well-known weapons to students of naval affairs. None is neglected in Terraine's work. His contribution shows not only why the weapons were developed but also how they were used and what were their effects on tactics. While each weapon was vital in its own right, the aggregate did the job.

Aircraft were crucial and their value was not fully recognized early in the war. The Royal Air Force's Coastal Command suffered for want of aircraft and crews in competition with Bomber Command. Yet, when the war ended, aircraft had accounted for as many submarine kills as had surface vessels. As aircraft came to dominate the Bay of Biscay, that stretch became as dangerous a place for submarines as the North Atlantic.

The struggle for the Atlantic was, as Churchill said, a war of "measureless peril expressed in charts, curves, and statistics." It was a race to build merchant ships and escorts faster than they were lost and faster than the Germans could build submarines. Victory became apparent only indirectly, and gradually as the curve of submarine losses rose above that of the merchant ships. The crucial crossover came in May of 1943, the first month in which the number of submarines lost exceeded the number of merchant ships lost. Thereafter, the curves never favored Dönitz's forces. Each month following, more submarines were lost than ships. The decline was inexorable, though even in the last months of the war the Kriegsmarine mustered enough submarines to penetrate the Irish Sea and keep the convoys alert.

One might, as this reviewer did, cap Terraine's scholarship by reading again Monsarrat's *The Cruel Sea*, wherein he says at the end, "The beaten foe emerged. . . . They rose, dripping and silent, . . . above their handiwork, in hatred or in fear: sometimes snarling their continued rage, sometimes accepting thankfully a truce they had never offered to other ships, other sailors."

It was a hard campaign and Terraine's history is not without point for today. It is a very good book both for its historical analysis and for its value should maintenance of freedom of navigation become again a major task for the navy. As we have seen recently, many nations have the capability to disrupt the world's sea lanes.

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Showell, Jak P. Mallmann. *U-Boat Command and the Battle of the Atlantic.* Ontario, Canada: Vanwell Pub. Ltd., 1989. 224pp. $34.95

In this volume, Showell attempts to view the Battle of the Atlantic through the eyes of the German Submarine Command. Fortunately, he is more than qualified to do so, having penned several studies on the Kriegsmarine in the Second World War. In particular, this work is greatly enhanced by the fact that Karl Dönitz gave the author access to his voluminous wartime files. Despite this rare gesture, Showell came close to never completing the project. Fortunately, the counsel of wise friends prevailed, and this book was finally completed almost thirteen years after it had originally been abandoned.

As a consequence of his decision to portray the Battle of the Atlantic through German eyes, Showell has concentrated on German primary sources. These give the book a unique and extremely valuable historical perspective. However, these factors have not restrained him from making some rather striking observations about the nature and course of this very crucial campaign. He maintains that the U-boats were plagued with torpedo failures throughout the war, and not just in the early part of 1940. Furthermore, he states that the shortcomings of German torpedoes were only fully recognized and resolved after the end of the war. He also claims that the true turning point of the Battle of the Atlantic occurred during the first half of 1941, not 1943. Showell attributes a large proportion of U-boat successes in the early stages of the campaign to the Royal Navy's inadequate preparations. This is all the more surprising in that Britain should have been aware of Dönitz's potential strategy long before the outbreak of the war.

Other examples include the fruitless search within the U-boat command for leaks that were the suspected cause of the growing success of the Allied antisubmarine countermeasures. While Dönitz often suspected that the core of the problem might be with the German radio

coding machine, neither he nor his experts were ever able to confirm this. As a result, the size of his staff was cut to the bone in a vain attempt to eliminate the possibility of intelligence leaks. Consequently, the "Ultra secret" was never really in danger of being uncovered. Also, the British development of centimetric radar and the high-frequency direction finder was never seriously suspected until it was far too late for effective countermeasures to be devised.

Showell also argues that the U-Boats of World War II were only technically improved versions of their First World War predecessors. He maintains that the type XXI U-boat was technologically feasible long before the outbreak of the war. Germany's total failure to invest in long-term U-boat research and development was the prime cause of her defeat in the Battle of the Atlantic.

In addition, the author also gives us several brief insights into Dönitz's character and personality. Perhaps the most important is his argument that Dönitz never believed, even before the outbreak of war, that Germany could defeat England in a major conflict. If his thesis is accepted, then we are indeed in desperate need of an authoritative biography of Dönitz, because those that are currently available are clearly in need of major revisions.

Given its many radical observations and conclusions, it is unfortunate that the book is not footnoted. It is, for the most part, remarkably error-free, convincingly argued, well written and researched. (One rare example of an error which can be found in this book is the author's misidentification of the German heavy cruiser *Admiral Hipper* as a battle-cruiser on page 123.)

This book is profusely illustrated with both maps and photographs. The latter have been carefully selected, and are well captioned. The former provide information on U-boat operations at various key stages of their attempt to sever England's trans-Atlantic lifeline. For some reason, Showell believed that the majority of his readers would not read the entire book. Consequently, he often repeats the main points of his arguments in different chapters. However, despite this, the book should be read thoroughly. It is an important contribution to our understanding of the Battle of the Atlantic, and is clearly one of the most important works that has been published on the U-boat war in several years. It is wholeheartedly recommended.

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van Tuyll, Hubert P. *Feeding the Bear: American Aid to the Soviet Union, 1941-1945.* Westport, Conn.: Greenwood Press, 1989. 200pp. $37.95

Mr. van Tuyll addresses himself to a single issue: how important was the American lend-lease program to Soviet victory in the Second World War? He sensibly recognizes the difficulties

in attempting to answer such a question. Contemporary documents and accounts are suspect, for the Allies had a stake in overstating—and the Russians, by contrast, in understating—the significance of foreign contribution to the war effort. The Russians did so for patriotic reasons, and to pressure the Allies to make even greater contributions. American politicians and military men, on the other hand, needed to show that the vast public sums expended to benefit the Soviet allies in fact made a difference.

The historian of the lend-lease program faces further difficulties. The Soviets were so secretive during the war that they did not allow their American allies to make an objective evaluation of the performance of the weapons they were contributing. Van Tuyll cites an amusing example: The Americans, reasonably enough, wanted maps showing the location of Soviet airfields. The Russians responded by saying that (a) there were so many airfields that planes could easily find them without maps; (b) the country was flat, so any field could be used; and (c) there *were* no maps. Therefore, the donors even at the time could only guess how much their material aid had mattered. Undoubtedly Russian preoccupation with secrecy hurt their ability to wage war. Until recently, Soviet historians did everything within their power to minimize the significance of American aid. But perhaps now the situation will change. Not only will Soviet historians approach the issue more objectively, but the authorities may open Soviet archives to foreign researchers. Van Tuyll did his work before the recent era of openness.

Possibly the greatest difficulty that the historian faces in attempting to answer van Tuyll's question is conceptual: how can one separate one factor out of many? How can one compare the role of American machinery, food, and clothing with Soviet heroism, determination, and military skill? In fact the author is posing a counterfactual question: how would the Red Army have done without American help?

Given these difficulties, Mr. van Tuyll has done an excellent job. His research is impressive (his notes are almost as long as the text itself). He obviously has a good understanding of military issues and the ability to explain both how American equipment was used and how it affected performance of the soldiers. But most importantly, the author is a man with common sense who is able to put competing claims in context. He is determined not to overemphasize the role of lend-lease, not to give too much credit to the Americans as if somehow to counterbalance the claim of Soviet historians who have obviously given too little credit.

His conclusions are judicious: the Red Army would have withstood the German assault alone. After all, at the time of the greatest danger, in 1941, foreign help was not yet available. On the other hand, it seems likely that the greater successes, the almost uninterrupted series of Red Army offensives

that began in 1943, could not have been carried out as successfully without American help. Van Tuyll agrees with all other observers that trucks, which increased the mobility of the army and were something that the Russians were not in a position to produce in quantity, were the most significant form of help. In addition, communication equipment, radar, and other items of technology made a difference in the performance of the Soviet troops. He rejects the argument of those who say that lend-lease, by speeding up Russian advance, enabled the Soviet Union to occupy Eastern Europe. He rightly points out that if the war had lasted longer more Allied soldiers would have died and that therefore American aid to the Soviet Union during World War II was a good investment: it saved American lives.

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Offer, Avner. *The First World War: An Agrarian Interpretation.* Oxford: Clarendon Press, 1989. 449pp.

Howard, Michael. *The Continental Commitment: The Dilemma of British Defence Policy in the Era of the Two World Wars.* London: Atlantic Highlands, N.J.: Ashfield Press, 1989. (originally published London: Smith, 1972). 176pp.

British strategy can choose either a continental commitment or an Atlantic orientation. The former has meant that the country seeks to exert direct influence on the power of Europe. This was the course chosen by Castlereagh, by those who supported France after war began in 1914, and by those who after 1945 saw Britain's frontier to be on the Rhine. Generally, today, it is the choice of those who see Britain's future in Brussels. In military terms, the continental commitment has meant soldiers on European soil. The Atlantic orientation has meant looking outward over the sea, a maritime and imperial strategy which recognizes the islands' dependence for food and materials on the far-flung Commonwealth and the Western Hemisphere. In military terms, Atlantic orientation has meant protecting the sea lanes and establishing naval blockades. The adherent of one orientation chooses land power; the other, sea power.

The blockade in the First World War was based on a sea power alliance. This Avner Offer traces to a specialization of world food production that in the nineteenth century bound the granaries and grazing lands of the United States, Canada, Australia, and New Zealand to the conscious British decision to import food and to let its own agriculture run down. The British overcame this vulnerability in time of war by stressing the ties of empire. There were two strategic consequences of their Atlantic orientation. One was the necessity to make sure the alliance which delivered the food stayed firm. Offer argues that the notion of a common front against a Yellow Peril in the

Pacific countries had cemented the tie (he does not include in his discussion India, a large prewar grain exporter, or Russia, the Danubian lands, or the Argentine). The second consequence was the assumption that blockade would be a decisive weapon.

Offer knows that personality counts in strategy formation. The blockade strategy was put forward by the fire-eating Admiral Fisher, the courtier Lord Esher, and the agenda-setter Maurice Hankey. They encouraged naval officers in the thinking that the German conflict was a commercial struggle that had to be decided by war. They won the endorsement of influential Dominion ministers. The blockade doctrine, in this interpretation, was the product of a broad sea power effort in Edwardian England to use the Dominions to avoid a mass commitment of British manpower. The question is: did it make strategic sense?

The army and the Foreign Office did not think so. For them, the balance of power in Europe was the key to home defense, and that meant soldiers in France. Michael Howard, who takes the story up to the Second World War, describes the debate over how to configure British defense with remarkable clarity. He wrote his concise survey in 1971, as he admits in a new preface, as an argument "with that older generation of naval and military historians, from Julian Corbett to Herbert Richmond and Liddell Hart, who had urged the need for a maritime strategy, a specific 'British Way in Warfare' based on the avoidance of any Continental Commitment." That position, said the pro-Nato author, no longer pertained.

Two questions remain. First, was the British choice really either-or? The answer is: obviously not. British strategy in both wars involved both restoring a balance of power and maintaining a maritime-imperial-seaborne raw material connection. Germany had to be defeated on land. British participation demanded command of the seas. Overseas allies were necessary for food, and for support. The empire fell away as a consequence of British absorption in the vital continental conflicts, not a loss of sea control.

The second question is: what was the importance of the blockade in the first war? Here Offer gives an original interpretation. The influence of the blockade and of the maritime alliance became obvious during the armistice period. At that time it gave the overseas powers who controlled the international food economy a strong hand in shaping the peace, for they were able to sustain the British while they deprived the Germans. Germany was not starved into defeat, Offer makes clear, although the blockade did have political consequences. It became part of German domestic politics in two ways. It imposed a shortage of food during the winter of 1918-1919 which strengthened the hands of the forces of reaction against the forces of revolution. At the same time the blockade, which continued after the shooting had stopped, allowed the Germans to reject the legitimacy of

the allied demands even as it forced the government to bend to the Allies' will. Because a blockade acts against the civilian populace, its maintenance after the Armistice transformed a "just war" against the imperial government into an "unjust" war against civilians, and thereby helped the Germans transfer the target of their negative verdict on the peace treaty from Berlin to Versailles.

These books show a maritime strategy in all its complexity. Offer shows how the British sought a strategy for home security based on a seaborne agricultural alliance, and Howard shows why that was not enough. The two books are fruitful to read together.

GEORGE BAER
Naval War College

Paschall, Rod. *The Defeat of Imperial Germany: 1917-1918*. Chapel Hill: Algonquin Books of Chapel Hill, 1989. 247pp. $22.95

This excellent book comprises a collection of battle histories that illustrate various attempts to restore maneuver to the Western front during 1917-1918. The engagements addressed include French general Nivelle's failed offensive of spring 1917; British field-marshal Haig's tragic offensive in Flanders during the summer and fall of 1917; the Italian defeat known as Caporetto in October 1917; the tank battle at Gambrai in November 1917; the extended German offensive of March-July 1918; and the botched American Meuse-Argonne offensive of September-November 1918. Paschall manifests sympathy for the much maligned leaders of the time and maintains that the circumstances precluded a decision by maneuver. Victory came to Marshal Foch because he recognized the necessity of war by attrition.

Each battle study is of great interest, reflecting the author's ability to synthesize recent scholarship and his original observations. The discussion of tactics is the soul of the book. This emphasis allows Paschall to dispel a goodly amount of the mythology that surrounds 1917-1918, especially in America. Paschall is both a skilled professional soldier and a seasoned professional historian who seeks to enlighten a broad audience about a much neglected conflict. Knowledge of World War I is essential to an understanding of later events, including World War II.

The author's choice of battles is curious however, because none are catastrophic German defeats. The German Army repulsed both Nivelle and Haig in 1917. Italy suffered a sweeping defeat at Caporetto. The British assuredly achieved a startling advance at Cambrai, but Ludendorff soon counterattacked successfully and erased the initial territorial loss. From March to July 1918, Ludendorff conducted five offensives, some of them remarkably successful. He suffered defeat only in the sense that he did not accomplish his main goal, which was to achieve a decision before the

American reinforcement allowed the Allies to turn the tide. As for the American Meuse-Argonne campaign, it in fact resulted in a check to the American Expeditionary Forces until early in November. Paschall is gentle, but explicit in his condemnation of Pershing's tactical ideas which stressed aimed rifle fire.

To this reviewer, the surprise in the book is that it neglects two critical battles of 1918 that were undeniable German defeats of the first magnitude: the battle of Amiens on 8 August (a British victory that reflected their successful adaptation to current conditions and which forced the German government to recognize that it could no longer hope for victory), and the British attack on the fortifications known as the Hindenburg Line on 27-29 September, which produced two clean penetrations. After the latter attack Ludendorff insisted on an immediate armistice, starting a process that soon led to a new German government and bilateral negotiations with President Wilson that culminated in the armistice of 11 November.

Germany lost because it lacked the resources required to accomplish its maximal war aims, and because the Allies ultimately were able to make the best possible use of their superiority in manpower and material. Marshal Foch was the greatest of the captains of World War I because he discerned the means by which to force a decision through attrition. It is required reading for students of the Great War, but all readers should benefit from this book.

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Cecil, Lamar. *Wilhelm II: Prince and Emperor, 1859-1900.* Chapel Hill: Univ. of North Carolina Press, 1989. 463pp. $39.95

Lamar Cecil of Washington and Lee University is best known for his books *Albert Ballin* and *The German Diplomatic Service.* This volume is the first half of what promises to be a lively biography of the last of the Hohenzollerns. Cecil has combined exhaustive archival research from Austria, West Germany, and England with extensive study of the memoir literature of the Second Reich to produce a highly readable account of Wilhelm II's career to 1900. Cecil's work in The Royal Archives, Windsor Castle, in particular has produced fresh material on the Kaiser and his half-German relatives. Unfortunately, the author was denied access to the extensive holdings in the former East Germany pertaining to Prussia and its ruling house.

At the personal level, Cecil argues that Wilhelm in his mid-twenties was already the man he would be as Kaiser: "rankly opinionated, blind to his errors, and utterly self-centered." Fortunately, we are spared the sensationalist (and probably untrue) assertations of scholars such as J. Rohl, I. Hull, and N. Sombart, among others, concerning Wilhelm's supposed "homoerotic"

tendencies. Cecil is too good a historian to fall prey to circumstantial evidence such as court gossip and innuendo.

For the serious student of German military and naval history, however, Cecil's biography is rather disappointing. To be sure, the author recounts in rich detail Wilhelm's well-known foibles with regard to uniforms and maneuvers, and his cherished personal command authority, but the deeper issues of military reform are glossed over. This is especially the case with regard to the critical issue of the role of the military in a modern, industrial state. In 1890, War Minister Verdy du Vernois asked if the Prussian Army was to remain a "corps royal" or whether the concept of the "nation in arms" (*Volk in Waffen*) was to be put into practice. While the issue bedeviled successive war ministers until 1914, Cecil offers no analysis.

Likewise, the Kaiser's love of all things nautical in general and of A.T. Mahan's work in particular is well documented—as is Wilhelm's testy (and at times, tempestuous) relationship with that "Bismarckian character," Alfred von Tirpitz. Cecil rightly credits Wilhelm's "personal regiment" with creating the necessary support for "navalism," while making the concomitant case that Tirpitz was the real architect of the High Sea Fleet. Yet, one misses the central argument: was the fleet built primarily as a tool of empire (*Weltpolitik*), or as an integrating factor of social imperialism? Study of its role in the origins of both the Anglo-German naval race and the First World War will have to await Cecil's second volume.

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Gamba-Stonehouse, Virginia. *Strategy in the Southern Oceans, A South American View.* New York: St. Martin's Press, 1989. 155pp.

Strategy in the Southern Oceans, A South American View is about geopolitics and includes most of the major themes that are current in the writings on this topic in Argentina, Brazil, Chile and Peru. These themes are the Falklands/Malvinas war and its aftermath, the Beagle Channel dispute, the strategic value of the South Atlantic, the still-festering sequels of the War of the Pacific (1879-1881) and current territorial claims in Antarctica.

Gamba-Stonehouse concentrates on two case studies. Her first deals with the potential conflict arising today from Bolivia's ambition to obtain part of the coast of northern Chile in order to build a port for its own use. She reviews the border changes of Peru, Bolivia and Chile from the colonial period through the War of the Pacific, the war itself, and its settlement by treaties. She describes Bolivia's many efforts to revise the peace treaty signed with Chile, and has some things to say about the global implications of this issue.

Her second case centers on the conditions in the South Atlantic after

the Falklands-Malvinas war. She makes interesting analysis of the decision process that prompted the Argentinean leaders to invade the islands in 1982; her discussion suggests the influence of geopolitical thinkers in that decision. She also discusses its connection with the Beagle Channel dispute between Chile and Argentina that was being mediated by the Pope at the time. The case illustrates the changing attitudes of some geopolitical writers about the best way to achieve a nation's potential, for they are shifting from nationalistic and confrontational approaches to strategies of cooperation. Gamba-Stonehouse develops this theme by stressing the current level of collaboration between Argentina and Brazil in various fields, such as nuclear power research, joint ventures in military hardware, and joint development of a Western South Atlantic strategy against the common perceived threat—made plain by the British militarization of the Falklands-Malvinas islands.

The author's sources are mainly Argentinean and Peruvian for the first case study and Argentinean for the second. She uses American, British, Brazilian and Chilean materials sparsely. The authority of the sources she does use is, in some cases, questionable. The lack of a balanced view is evident in both case studies analyzed. Both Chilean and British points of view are omitted or heavily burdened with conjectures.

Anybody writing today about the future of world politics stands a good chance of erring. *Strategy in the Southern Oceans, A South American View* does not escape this hazard. Some basic premises underpinning the arguments of the book are changing rapidly. One is the desire of the countries of the southern cone, especially Argentina and Brazil, to remove this part of the world from the East-West confrontation. It turns out that today the East-West confrontation is dissolving. The other is the isolation of both Great Britain and Chile—the former for its policies during and after the war of 1982, the latter for its military regime. Again events have changed dramatically. Argentina and Great Britain have established diplomatic relations and are cooperating to solve their differences. In Chile a democratically elected government is now in power, thus ending its purported isolation. And finally the revolutionary conditions in Central America that threatened the future use of the Panama Canal, increasing the strategic value of the Drake passage, have also changed. The recent events in Panama and Nicaragua have stabilized this region.

The book points out correctly some of the differences between the countries in this region that belie the common perception in the U.S. that Latin America constitutes a homogenous group of countries with both a common past and united aims for the future. Conflicts such as those Gamba-Stonehouse describes are real and have in some instances developed into full-grown wars. It is unfortunate that in these controversies, geopolitical

thinkers have helped generate an atmosphere in which intentions have often replaced capabilities, in which potential riches have been counted before being discovered, and perceptions have overshadowed realities, thus breeding suspicion and animosity between bordering countries. This book does not reverse that condition.

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Karnow, Stanley. *In Our Image: America's Empire in the Philippines.* New York: Random House, 1989. 494pp. $24.95

Given the political and economic uncertainty besetting Manila and the current state of U.S.-Philippine relations, this book could not be more timely. If one has a limited amount of time in which to become familiar with the long and complex history shared by the two countries, this may well be the best single volume available.

Stanley Karnow will be known to most *Review* readers for his earlier prodigious work on the Vietnam war. Like that book, *In Our Image* is a skillful and eminently readable blend of history, journalism, and occasional gossip. Also like his previous work, this book has a companion video history which was aired on the Public Broadcasting System. While they are not marketed as a package, the video series is a rich pictorial retrospective and a must-see for those interested in Philippine affairs.

Stanley Karnow addresses his book to three questions: what propelled the Americans into the Philippines; what they did there; and what has been the legacy of their role. In writing the book he has faithfully answered those questions, and the reader will be struck throughout that this is not so much Philippine history as it is American history. Mr. Karnow's journalistic roots (*Time*, *Life*, *The Washington Post* . . .) enable him to bring historical figures to life and thus imbue dusty history with freshness and vitality.

Much of the book is directed towards explaining the policies, ambitions, and emotions that led to the Philippines becoming an American colony and to the subsequent "special relationship" that has linked the two countries for nearly a century. In examining these issues the author is careful to become neither apologist nor revisionist, but rather to balance both countries' faults and virtues fairly and conscientiously. Students of more recent foreign policy decisions will certainly recognize the strategy and policy mismatches that occurred during the so-called Philippine Insurrection of 1898. The notable absence of leadership on the part of President McKinley is brought into sharp focus, as are the later actions (and inactions) of Douglas MacArthur.

It must be said that Stanley Karnow has definite personal views on certain issues and personalities—MacArthur being only one of many. But once recognized, this personalizing becomes one of the book's strongest

virtues. The author weaves together so many anecdotes, bits of gossip, and little-known facts that the reader cannot help but form a complete picture of the people and the times in which they lived.

In Our Image becomes even more fascinating toward the end, when the last twenty-five years of shared history become more familiar. Intimately acquainted with the Marcos' "conjugal dictatorship" and with virtually all the key players in the opposition movement which led to their ouster in 1986, Karnow provides fresh insights into the complex mixture of politics, corruption, greed, ambition, and idealism which culminated in Cory Aquino's victory. The chapter outlining the transition from Marcos to Aquino and the U.S. policy decisions relating to it are vivid and compelling.

The book touches briefly on the current insurgency, but, regretfully, was completed prior to subsequent coup attempts and the Philippines' present political malaise. Nonetheless, it provides such a measured and complete foundation that the reader cannot help but gain a firm grasp of the challenges and imponderables which now face Mrs. Aquino. Stanley Karnow has virtually created a genre of journalistic historicism; *In Our Image* is excellent from start to finish. Potential readers should not be put off by its nearly five hundred pages; it is a journey that is both enjoyable and worthwhile.

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Naval War College

Allen, Robert L. *The Port Chicago Mutiny*. New York: Warner Books Inc., 1989. 192pp.

The 1944 ammunition explosion at Port Chicago, California, is obscure today. It produced the most casualties of any U.S. domestic industrial accident connected with World War II. Yet Robert Allen's excellent book should help diminish that obscurity, for he discusses how the ramifications extended far beyond the actual incident.

On the night of 17 July 1944, two merchant ships at the Port Chicago pier exploded while crews of black navy enlisted men were loading ammunition for transportation to the war zone: the *E. A. Bryan*, a Liberty ship, and the *Quinalt Victory*, a brand-new Victory type. The accident killed 320 men, injured 390 others, and damaged or destroyed much of the ammunition depot. The Victory ship was broken up and hurled some five hundred feet from her berth while the Liberty ship was essentially atomized.

Perhaps the incident is so little known because naval history has traditionally concentrated on the strategic and operational aspects of wars. Logistics is far behind as a subject for study, but it is well to remember that Task Force 58, for example, would have been toothless in the Central Pacific campaign without the bombs, rockets, projectiles, powder, and machine gun bullets loaded aboard hundreds of merchant ships at Port Chicago, about forty miles east of San Francisco.

Dr. Allen has chosen to concentrate on the men and on the disciplinary

consequences when stevedore crews expressed their unwillingness to return to the dangerous work after the explosion. The author, an African-American scholar, has focused on the fact that 202 of the men killed were black. Indeed, the stevedore crews were all black, reflecting a pattern found throughout the still-segregated U.S. Navy of World War II. Even though black enlisted men were permitted in the general service ratings and were not limited to food service jobs as they had been previously, they still had precious little opportunity to get into combatant billets. Instead, they were mostly used as laborers, both in the United States and overseas.

In the wake of the incident, the ship-loaders were willing to undertake any type of duty other than ammunition loading, especially in view of the unsafe working conditions they had experienced in the past. (The officers in charge, who were white, had bet each other which crews could load most quickly, for example. Loaders had rushed the jobs to comply with the directions of these officers.)

The Commandant of the Twelfth Naval District, Rear Admiral Carleton Wright, threatened the recalcitrant enlisted men with death, and all but fifty reluctantly returned to work. The remaining fifty were then court-martialed for mutiny because of their collective insubordination in wartime.

The defense legal team argued that the refusals were individual acts, not conspiracy, and in any event were analogous to a sit-down strike that civilian stevedores might mount—far from active attempts to seize authority, which traditionally constitutes mutiny. Predictably, the fifty men were found guilty and sentenced to fifteen years apiece in prison. Eventually, because of the end of the war and pressure from a variety of groups such as the NAACP, the men were released from prison after only about a year.

Dr. Allen has done a superb job with this study, in part because of his near-compulsion to ferret out the story and commit it to paper. His research is compiled from both documentary sources and oral-history interviews with a number of the original ammunition-handlers.

Especially valuable to Allen's research was the cooperation he received from Joseph Small—one of the leaders of the group charged with mutiny—who describes the atmosphere in the depot and in the nearby town during the period before the blast, and also the dissatisfaction with the segregated system and with the psychological devices used by the men to keep working in such a situation. The explosion took away those compensating mechanisms.

In today's navy, it is likely that teams of psychiatrists would flock to help the men deal with their trauma; in 1944, however, they were accused of cowardice and then disciplined. Under the system then in effect a man either did his duty or he was punished; there was no middle ground, no mitigating circumstances. Thus the book offers a window not only into

the prevailing racial atmosphere in the navy of that era but also into its methods of dealing with people in a wartime environment.

As a consequence of the public attention engendered by the Port Chicago incident, black navy men were dispersed more widely than they had been and the service took steps toward reducing discrimination before President Harry Truman's watershed executive order that integrated the armed services in 1948.

Throughout the text, Dr. Allen portrays the viewpoint of the black ammunition-handlers. Given the progress that the navy has made in the last forty-five years regarding racial awareness, his description is valuable in pointing out how much needed to be changed. It is not easy for a group of men to refuse to do their duty in wartime, but this book helps us to understand why these men did so and to sympathize with their plight.

PAUL STILLWELL
U.S. Naval Institute
Annapolis, Maryland

Johnson, Loch K. *A Season of Inquiry: Congress and Intelligence.* Chicago: Dorsey Press, 1988. 317pp.

This is a new but apparently unchanged edition of a book originally published in 1985 about the 1975 Senate inquiry into alleged "abuses" by the U.S. intelligence community. According to the author, it was republished in the wake of the Iran-Contra scandal which had indicated that such abuses have continued despite the establishment of a formal congressional oversight structure that resulted from earlier congressional investigations. The author was a staff assistant of the Senate Select Committee on Intelligence Activities, which became known as the "Church Committee" because it was chaired by Senator Frank Church (D. Idaho).

While the substance of the intelligence abuses uncovered by the investigation—assassination attempts, illegal telephone taps, etc.—are interesting in their own right, this book is really about the Church Committee: the senators, the staffers, the politics, and the problems involved when one branch of the government attempts to investigate another. Johnson details the inner workings of the Church Committee and provides a fascinating study of congressional activities—a "primer on how the Senate works," as a reviewer of the first edition stated. The author provides an insider's viewpoint of how that political power is manifested in Washington, along with the personal ambitions, jealousies, and priorities of our congressional leaders at work. It is well worth reading.

E.D. SMITH, JR.
Naval War College

Smith, Stuart W. *Douglas Southall Freeman on Leadership.* Newport, R.I.: Naval War College Press. 1990. 262pp.

Shelby Foote is probably the best known Civil War historian alive

today, at least since the extraordinary PBS documentary of last fall. But in the middle years of this century the history of the late Confederacy was dominated in the popular mind by Douglas Southall Freeman. He was the longtime editor of the *Richmond News Leader*, Pulitzer Prize winning biographer of Robert E. Lee and George Washington, and author of *Lee's Lieutenants*.

Freeman was no journalistic historian. He was a 1908 PhD. from Johns Hopkins University, then considered by many to be the cradle of "professional" historical scholarship in the United States. The son of a veteran of the Army of Northern Virginia, Freeman knew personally many veterans of that army and was dedicated to preserving and recording its history. Indeed, the most moving speech in this collection is one written for his father when the elder Freeman served as commander in chief of the United Confederate Veterans.

Freeman belonged to the "great man" school of historical interpretation, and to an age when leadership was considered more a part of the discipline of ethics than of behavior science. Such views may not be consistent with contemporary academic fads, but events of the past year or two have shown that they merit the consideration of those who would understand the world and the motivation of people. One need only examine the changes in Central Europe, or contrast the command of Operation Desert Storm with that in Vietnam, to see clearly that those who lead do matter and that ethical values, character, and integrity are not entirely passé.

These essays are a collection of fourteen speeches delivered by Freeman on leadership. Twelve of these were presented at various institutes of higher professional military education (notably the Army War College, Naval War College, and Armed Forces Staff College) during the time that Freeman was writing his great biographies. They address attributes of leadership and character and use Lincoln, Lee, and Washington as exemplars. While there is some repetition in the conclusions drawn, each speech is unique because Freeman felt obliged to change his presentation each year rather than bore those who had previously heard him address the same topics. Aside from the historical lessons taught and the ethical principles defended, these speeches tell us a great deal about that extraordinary man of character who was the speaker himself.

This volume, edited by Lieutenant Commander Stuart Smith, the former managing editor of the *Naval War College Review*, provides an excellent addition to the massive Freeman corpus and is a welcome addition to the available works on military leadership. It also reminds the historian that no biography exists of that extraordinary southern scholar.

Freeman's text is complemented by thorough explanatory footnotes, along with splendid introductory essays by the editor and Admiral James B. Stockdale. Included are a chronology of the Army of Northern Virginia,

and an appendix containing Lincoln's Second Inaugural Address, Lee's Farewell to the Army of Northern Virginia, and Washington's resignation of his commission.

This is a book which should be read by all who follow the profession of arms.

RICHARD M. SWAIN
Colonel, U.S. Army
Army Forces Central Command

Peters, Ralph. *Red Army: A Novel of Tomorrow's War.* New York: Pocket Books, 1989. 403pp. $5.95

It is difficult to find reasons to regret the liberalization of Eastern Europe and the coming withdrawal of Soviet forces from the Warsaw Pact countries. One reason stems from the fact that with every day, the novel *Red Army* moves further from plausible fiction into fantasy. Subtitled "A Novel of Tomorrow's War," *Red Army* provides a U.S. Army intelligence officer's best estimate of the Soviet view of the next war in Europe. Peters' effort succeeds admirably; the reader is exposed to the thinking of a large number of Soviets: each with his unique view of the battlefield.

For those addicted to the genre of alternative or potential military scenarios, this work is one of the best of its kind. It skillfully blends the characters and smoothly flows from one to another—from the Soviet front commander to a terrified private—while providing a gripping account of the Soviet assault on West Germany. One does not find a story based on exaggerated accounts of technological wizardry or other improbable gimmickry but rather a reliable description of the equipment that one may find in Europe and an introduction to the type of SNAFUs that one would expect (as Clausewitz would put it, the "fog of war"). The book has a plausible set of events leading to a believable, if not very satisfying, conclusion.

Because Peters sensibly restricted himself to areas he specialized in, the scope of the book is limited. While this is mainly an advantage (the writing is uniformly excellent), the potential audience of *Red Army* is reduced by the limitations Peters placed on his own efforts. One will not find in *Red Army* the political machinations that give works such as *Red Phoenix* their flavor, nor any consideration of the strategic dimension of the war. Nor, importantly for these pages, is there any consideration of the naval aspect of a Nato-Warsaw Pact war. Peters' focus is entirely on the actions of one Soviet front and of its soldiers.

In addition to the diminishing credibility, due to current events, of Peters' scenario, the tensions between Soviet nationalities are clearly understated in light of present unrest in the Soviet Republics. Despite these qualifications, if you are interested in an incisive account of the increasingly unlikely ground war in Western Europe, then *Red Army* is likely to be as gripping for you as it was for me.

ADAM B. SIEGEL
Center for Naval Analyses

Terzibaschitsch, S. *Aircraft Carriers of the U.S. Navy*. Annapolis, Md.: Naval Institute Press, 1989. 344pp.

Probably no one has more lovingly detailed the appearance and technical data of each U.S. Navy aircraft carrier than Stefan Terzibaschitsch. Readers who do not own the 1980 first edition should be delighted that the Naval Institute is printing this updated and revised photographic and textual history.

Terzibaschitsch divides his coverage into pre-1950 and post-1950 surveys. In both, he presents technical information applicable to carriers generally and to specific classes. He then devotes several pages to each ship, with large photographs, capsule reports on service history and electronics configuration, and numerous drawings and deck plans by Eberhard Kaiser and Klaus-Dieter Schack. Forty pages of appendices document, *inter alia*, construction histories, technical data, and air wing compositions.

Although three pages are given to the two Great Lakes training carriers, escort carriers (CVEs) are not included (Terzibaschitsch covers these in a separate volume, also from the Naval Institute Press). The most noticeable change from the first edition is an additional twenty-two pages to update coverage of operational ships and include the *Carl Vinson* and the *Theodore Roosevelt* (CVNs 70 and 71).

Earlier errors or now-outdated assertions have been corrected on at least three dozen pages. Some remain for the eagle-eyed: Mark Morgan zeroes in on squadron and aircraft goofs in *The Hook* (Winter 1989).

This is a wonderful book for those who love carriers, from the very old ones to the very new.

TOM GRASSEY
Naval Postgraduate School

Friedman, Norman. *British Carrier Aviation: The Evolution of the Ships and their Aircraft*. Annapolis, Md.: Naval Institute Press, 1989. 384pp. $44.95

It has been stated many times since the early days of World War II that the Royal Navy's loss of its naval air arm to the Royal Air Force in 1918—an organizational embodiment of the "indivisibility of airpower" concept—led to significant and avoidable operational and materiel disappointments during World War II. These wartime shortcomings in turn have been said to demonstrate the need for naval authority to command the entirety of its air element: aircraft, ships, and all their personnel, and also the design, procurement, and training thereof. On the other hand, the Royal Navy—which recovered full authority over embarked aviation on 24 May 1939—has been credited with inventing, following World War II, several key aircraft carrier design features that were later adopted by the U.S. Navy: the so-called "angled" flight deck (the overhanging deck extension making possible flight operations without risk of crashes into

aircraft parked further forward); the steam-powered aircraft catapult; and deck-edge "mirror" aircraft landing aids.

Norman Friedman's new study of British carrier aviation relies on a great deal of new archival research, primarily in the U.K. but also in the U.S., to advance our understanding of these and other items of accepted wisdom important to the history of seapower. Although published individual operational histories are available for many British aircraft carriers (e.g., the *Ark Royal*, *Illustrious*, *Victorious*, *Glorious*, *Bulwark*, *Vindex*, etc.), and a few overall naval aviation histories exist, until now there has been no comprehensive archivally-based study of British aircraft carrier design and characteristics to parallel the standard reference works produced over the last twenty years on British battleships (by Oscar Parkes, John Roberts with Alan Raven, and R.A. Burt); or World War II cruisers (Roberts and Raven); and on all destroyers (Edgar J. March). Note must be made, however, of one existing solid study of policy, Geoffrey Till's *Air Power and the Royal Navy 1914-1945: A Historical Survey* (Jane's Publishing Co., 1979), reviewed in the *Naval War College Review* for March-April 1981, pp. 124-125. *British Carrier Aviation*, however, gives a more detailed description of the technical aspects of carrier design and characteristics than does the earlier work.

Dr. Friedman's book provides a better appreciation of the military operational effectiveness of the carrier force than do many books on aircraft carriers, by combined treatment of both the ships and their aircraft. British naval aircraft have been described previously in considerable detail in several aviation histories, but with little regard for the design constraints and operational aspects of shipboard operation.

British Carrier Aviation adopts a format similar to that used in Dr. Friedman's "Illustrated Design History" series on U.S. Navy warships published by the Naval Institute Press. There are extensive illustrations throughout, including numerous scale line drawings from official plans produced for this book. About twenty-five ships are illustrated with particularly valuable sets of drawings (inboard profiles and deck plans) with keyed identifications of various internal spaces. Aircraft are generally illustrated with photographs rather than drawings. The book's unusually large physical size—roughly 11 inches square—has permitted the publisher to avoid burying most of each illustration in the spine of the book. The photographs are excellent.

There are a few shortcomings, none major. There are more typographical errors than desirable (e.g., the steam catapult is said to have been conceived in "1963" when probably "1936" was meant). This reviewer, at least, remains somewhat confused by the internal organization of the Admiralty, a point relevant to the design debates; some organizational line diagrams for a couple of representative years might have been worthwhile.

(Some useful examples appeared in Eric Grove's *Vanguard to Trident: British Naval Policy since World War II*, Naval Institute Press, 1987.) The ship line drawings are in outline, rather than constructional, so that fine detail of structure such as scantling strength and shell expansion is omitted. Finally, the effects of budgetary pressures on British carrier aviation are mentioned often but are not explained as well as in another excellent new book, Jon Sumida's *In Defence of Naval Supremacy: Finance, Technology, and British Naval Policy 1889-1914* (Unwin Hyman, 1989).

There are several particularly fascinating aspects of *British Carrier Aviation*. Somewhat surprisingly, full attention is given to the many converted merchantmen of World War I. These carried a handful of airplanes in direct support of the battle fleet prior to the advent of the now classic "flattop" fleet carriers in the 1920s. That these early ships, and also the aircraft borne on the catapults of surface combatants, were quite significant between the wars, is an important finding. On more recent topics, much new information is provided on carrier designs during the early 1950s, and on the final big aircraft carrier design, the "CVA.01" of 1963-66, as well as on later V/STOL aircraft carriers.

To return to the initial point about the flaws of Royal Air Force management of naval aircraft and aviators between the wars, Dr. Friedman argues that certain hitherto overlooked aspects of the Royal Navy's aviation doctrine imposed constraints that were more far-reaching than any air force indifference toward meeting navy needs. Two examples were: (1) requiring tactical aircraft to be capable of flying from battleship and cruiser catapults as well as flight decks; and (2) storing all aircraft in carrier hangars with none on the flight deck. No special reason, either organizational or individual, is cited for the Royal Navy's history of inventiveness in carrier design.

British Carrier Aviation concludes that the Royal Navy's carrier aviation record has been outstanding "strategically, operationally, technologically." This book is an invaluable guide to understanding how such a successful naval force was created and, as such, it will give valuable historical insights to students of current naval aviation issues.

CHRISTOPHER C. WRIGHT
Baltimore, Maryland

King, Randolph W., ed. *Naval Engineering and American Sea Power* Baltimore, Md.: The Nautical & Aviation Pub. Co. of America, Inc., 1989. 487pp. $29.95

This work is a classic example of the saying "You can't tell a book by its cover." While its title and textbook-style appearance convey an intimidating impression of a highly technical volume suited only to the dedicated student of naval engineering, the truth is actually quite different. Written in an easy-to-understand style, this book will appeal to both the

technical and nontechnical reader. For the engineer, there is a wealth of information on ship construction techniques, weapons systems, and propulsion types, all of which played such a prominent role in the development of the U.S. Navy in this century. These subjects are thoroughly described, with the significant technological developments in each area comprehensively covered.

Yet at the same time, the discussion has clearly been oriented so as not to lose the non-engineer. The result is a book that bridges the gap between those knowledgeable of technical areas and those who are not. In the past, detailed information of this nature was frequently difficult to find outside of complex technical manuals or papers. By providing a "user-friendly" way to understand these subjects, this volume serves an important function. A vast amount of information is combined in a centralized and very readable source. An understanding of technical matters is of value to a student of naval history since in many cases these technological developments were as influential on the navy as national policy.

An equally impressive strength is the wide range and diversity of subjects covered. This work discusses not only the obvious items but also developments in electronic warfare, communications intelligence, operations research, sonar, computers, firefighting technologies, radar, and navigational systems, to name just a few. The scope is broad enough to take in even that perennial favorite amusement of sailors, the motion picture. During the 1930s the fleet wanted the new "talkies" but suitably rugged equipment was not available. Consequently, the Bureau of Engineering began to work with commercial producers to develop such equipment. The year-long effort is described in full with the eventual result that in 1932 the fleet was finally able to enjoy sound motion pictures on their new 4mm projectors.

In addition to addressing the "hardware" issues that influenced naval architecture and engineering, King links relevant world and national events to the development of the navy. For example, the impact of the Washington Naval Conference on ship design and naval force structure is analyzed. Later chapters examine the impact of new management approaches such as "design to cost" and "total package procurement" on ship construction and engineering. The discussion of new automated ship construction techniques in the later chapters is interesting. Operational events are discussed, but primarily with respect to how they influenced or validated naval developments.

The many experimental installations and "one time" trials that have occurred through the years provide ample material for the naval trivia buff. One of the more interesting is the story of the USS *Timmerman*. This unfortunate ship was designed to test the "exactness" of naval design and construction practices in the 1950s: it was built on the premise "that if an individual piece of equipment did not

fail, then that piece of equipment was not designed close enough." Success in this case was a matter of perspective. Its engineering officer was to observe, "the vessel has been a 99% success because 99% of the equipment has failed one way or another."

Naval Engineering and American Seapower was published under the auspices of the American Society of Naval Engineers, an authority in this area since its foundation in 1888. The society commissioned a different author (or authors) to write each of the book's twelve chapters. While this approach did combine a wide range of talent, it also resulted in a somewhat uneven treatment. This problem is acknowledged in the preface and is somewhat understandable in view of the magnitude of the task.

Although the main emphasis is on the twentieth century, the period covered extends throughout the navy's existence. The first two chapters cover the era prior to 1900. The remaining ten continue from 1900 to the present. Following the twelve chapters are three appendices, of which the most interesting is a chronology of naval engineering developments from the 14th century B.C. to 1988. While the primary focus throughout is on the navy, there is also material on the U.S. Coast Guard, the merchant marine, and the maritime industrial infrastructure.

Naval Engineering and American Seapower is a valuable addition to any library simply because of the wealth of information it contains. Combining its features with an easy writing style has resulted in a book that is a pleasure to use for either research or general reading. A final pleasant surprise for a book of this scope and depth is its reasonable price.

CHRISTOPHER STASZAK
Lieutenant Commander
U.S. Naval Reserve

Recent Books

Alden, John D. *The American Steel Navy: A Photographic History of the U.S. Navy from the Introduction of the Steel Hull in 1883 to the Great White Fleet, 1907-1909.* (With photographic research and editorial supervision by Ed Holm and warship profiles by Arthur D. Baker III) Annapolis, Md.: Naval Institute Press, 1990. 408pp. $49.50.

A century ago men such as Luce and Mahan began an intellectual revolution which changed the way in which politicians and admirals thought about navies. At about the same time others began the reconstruction of the U.S. Navy's stock of fighting ships. Most obviously in contrast to their predecessors, the new ships were built of steel, not wood, and driven by steam, not the wind. Driven intellectually by Mahan, they were not just another collection of new ships, but a fleet. In this splendid book, reissued by the Naval Institute after many years out of print, one can see in hundreds of marvelous photographs the new ships, the new fleet, and their officers and men who, together, turned ships and fleet alike into a powerful fighting force. As it is so often, once again the Naval Institute is entitled to a Bravo Zulu for this.

Arnett, Eric H., ed. *New Technologies for Security and Army Control: Threats and Promise.* Washington, D.C.: American Association for the Advancement of Science, 1989. 341pp.

In 1989 the AAAS held a conference in Washington on "Science and Security: Technology Advances and the Arms Control Agenda." This interesting book is a compendium of the papers given at that conference. They are divided into sections for nuclear, conventional and chemical weapons technologies. The focus is on the impact of new weapons technology on national strategy and policy and arms control. Particular emphasis is given by several authors to the special problems of verification associated with arms control for newer technologies. While some attention is given to the prospects for, and consequences of, the proliferation of high technology weapons to the troubled parts of the Third World, little prescience is detectable as we contemplate the latest Persian Gulf crisis. Nevertheless, it is a useful book for its breadth of coverage on technology and national security in the immediate post Cold War era.

Arnett, Eric H. *Gunboat Diplomacy and the Bomb.* Westport, Conn.: Praeger, 1989. 175pp. $39.95

With the growth of regional powers bent on trouble-making, combined with the probable spread of nuclear weapons, it behooves the navy to give some thought to the matter of power projection in a regional nuclear environment.

In this short, but intense book, Dr. Arnett has done so. After a thorough review of the effects of nuclear weapons on surface ships, Arnett constructs several scenarios involving a clash of U.S. interests and a regional but nuclear capable state. He concludes that in the long run, nuclear proliferation may cause the United States to reevaluate its regional power projection interests and capabilities. This is a timely book for the navy in light of the Gulf War.

Cave Brown, Anthony. *Bodyguard of Lies.* New York: Quill/Morrow, 1991. 947pp. $16.95

During World War II, Winston Churchill remarked: "In wartime, truth is so precious that she should always be surrounded by a bodyguard of lies." Anthony Cave Brown's comprehensive history of Allied deception in the Second World War amply demonstrates Churchill's point. Cave Brown chronicles every facet of the extraordinary intelligence collections, deceptions and special operations carried out in the European theater. Some deceptions were the stuff of books that read like novels, such as, *The Man Who Never Was*, whose body floated ashore in Spain bearing a most convenient set of papers. Larger deceptions like the FUSAG, a false army publicly commanded by George Patton, was apparently aimed at Pas de Calais vice Normandy. Republication of Cave Brown's work is timely, for deception is at the heart of the current concepts of maneuver warfare and no doubt played a significant role in the Persian Gulf War.

Esterline, John H. and Mae H. Esterline. *How the Dominoes Fell: Southeast Asia in Perspective*, Lanham, Md.: Univ. Press of America, 1990, 428pp. $41.25

This book is a country-by-country political history of the nations of insular and mainland Southeast Asia: Vietnam, Cambodia, Laos, Thailand, Burma, Malaysia, Singapore, the Philippines, Indonesia and Brunei. Political events from earliest times to 1989 are presented in a broad, cultural context with emphasis on developments since World War Two. It is rather expensive for a paperback, but the book is uniquely comprehensive in its coverage of all the countries of Southeast Asia. Though not a work of deep scholarship, *How the Dominoes Fell* is nevertheless a balanced, readable, and useful introduction to the complex politics of this dynamic and important region. It clearly reflects the authors' personal familiarity and empathy with the peoples as well as the polities of these ten countries.

Books from Other War Colleges

The Army War College, the Air University, and the National Defense University all engage substantially in publishing books written by officers and civilians assigned thereto.

Here we list and describe briefly the books recently published or about to be published by the Army War College's Strategic Studies Institute and the Air University Press.

Army War College

Munger, Murl D. and William W. Mendel. *Campaign Planning and the Drug War.* Carlisle Barracks, Penna.: Strategic Studies Institute, 1991.

This report finds that while there is a viable national counternarcotics strategy and that tactical level efforts are commendable, there is no adequate system for translating strategy into sustained operations supported by plans, programs and budgets. The authors believe that the techniques used in military campaign planning can be adapted to bridge the operational gap. This report demonstrates the applicability of campaign planning to drug law enforcement activities and military support.

Snow, Donald M. *Third World Conflict and American Response in the Post-Cold World.* Carlisle Barracks, Penna.: Strategic Studies Institute, 1991.

This report examines the consequences of the end of the cold war military confrontation on the international system to determine how an altered environment affects the likely uses of American military power. The study concludes that the major focus of violent conflict in the newly emerging order will continue in the Third World. This does not mean that the United States will become the "world's policeman," but that we can protect our national interests when they are threatened and, through international organizations when possible, attempt to deter and resolve regional conflicts.

Tinsman, Robert B., ed. *Army Command and Management: Theory and Practice.* 1991.

This text provides the definitive explanation of "how the army runs" by explaining army systems management. It focuses on the descriptions of various army systems and subsystems. It has the ongoing goal of improving the army's ability to explain how it supports national military strategy.

Young, Thomas-Durell. *The New European Security Calculus: Implications for the U.S. Army.* Carlisle Barracks, Penna.: Strategic Studies Institute, 1991.

Very little has been written concerning the effect that recent political and security changes in Europe will have on the U.S. Army. The Seventh Army in Germany has been a symbol of the U.S. commitment to Nato for over 40 years. Now that the threat to our Nato allies has diminished, just where does the army fit in the future European security environment? The author of this report contends that a U.S. Army presence in Europe is continually needed for security and political reasons, but changes in structures and attitudes are necessary.

Blank, Stephen J. *Afghanistan: Strategic and Operational Lessons Learned.* Carlisle Barracks, Penna.: Strategic Studies Institute (forthcoming 1991).

The war in Afghanistan represents the greatest defeat of the Red Army since 1945 and remains the most criticized policy of the Brezhnev era. Most of what was wrong in Soviet security policies before Gorbachev's tenure was present in the decision to Sovietize and then invade Afghanistan. It was a decision that trapped Moscow in an endless war. The lessons this study seeks to learn from the war pertain to doctrine, strategy, operational art, force structure, and the role of the Red Army in counterinsurgency operations.

Glantz, David M. *Soviet Military Strategy in the 1990s: Alternative Futures.* Carlisle Barracks, Penna.: Strategic Studies Institute (forthcoming 1991).

The world is experiencing political, economic, and social changes, likely to produce fundamentally new regional and global relationships. The Soviet Union rests at the focal point of these changes. Revolutionary currents have swept the nation, severely shaking its internal political structure and changing its international stance. It is unclear whether revolution or renewed authoritarianism will result. The United States will have to accommodate to these changes. This study of future Soviet strategic options begins the process of understanding what is occurring, why, and what the implications may be.

Handel, Michael I. *Sun Tzu and Clausewitz: The Art of War and On War Compared.* Carlisle Barracks, Penna.: Strategic Studies Institute (forthcoming 1991).

This is a comparative study of *The Art of War* and *On War*, still the most outstanding and relevant classical works about war. Although modern warfare appears to be dominated by advancing technology, other factors such as human nature, the quality of leadership, national commitment, and diplomacy remain the same. Not distracted by constantly changing factors, Sun Tzu and Clausewitz identify the immutable dimensions of warfare essential for victory. Therefore, modern strategists and military professionals can derive great benefit from reading the classical works. This monograph provides a useful introduction to these basic texts, as well as a point of departure for further study.

Wilborn, Thomas L. *Northeast Asians View Their Security.* Carlisle Barracks, Penna.: Strategic Studies Institute (forthcoming 1991).

When the cold war dominated international politics, the primary objective of U.S. security policy in Northeast Asia was the containment of the Soviet Union. Now, with that threat greatly diminished, knowledge of the perceptions of defense intellectuals in China, Japan, and South Korea should be an important ingredient in formulating U.S. security policy for Northeast Asia. This study examines the views of these intellectuals about their security environments and analyzes their implications for the United States and the U.S. Army.

Air University

Blank, Stephen, et al. *Responding to Low-Intensity Conflict Challenges.* 1991. 332pp.

The authors examine doctrines, strategies, and force structures that third world countries have employed to answer the challenge of low-intensity conflicts. The contributors attempt to synthesize these experiences into considerations that U.S. policymakers should weigh carefully in facing future Third World conflicts. (This book is a follow-up volume to *Low-intensity Conflict in the Third World,* 1988, by Lewis Ware et al.)

Devilbiss, M.C. *Women and Military Service: A History, Analysis, and Overview of Key Issues.* 1990. 102pp.

Dr. Devilbiss examines and identifies key events, questions, and policies pertaining to women in the armed forces. She explores three major questions concerning the roles of women in the military: What has been the policy on this issue? Why and how have policy changes occurred? What issues remain on the policy agenda?

Donnini, Frank P. *ANZUS in Revision: Changing Defense Features of Australia and New Zealand in the Mid-1980s.* 1991. 195pp.

Lieutenant Colonel Donnini provides analysis and commentary on the demise of the ANZUS alliance and on shifts in Australian and New Zealand defense features. He addresses any questions and issues dealing with changing the political situation and the impact of those changes on defense and security conditions in the South and Southwest Pacific regions.

Johnson, Dion W. *Bear Tracks in Indochina: An Analysis of Soviet Presence in Vietnam.* 1990. 114pp.

Through an analysis of the military, political, and economic interests on the United States, Soviet Union, and the states of Southeast Asia, Colonel Johnson places the development of the Soviet presence at Cam Ranh Bay into perspective.

By analyzing the development and potential growth of Soviet military power in Southeast Asia, the author has provided a significant contribution to the overall analysis of threats and opportunities in Asia.

Tilford, Earl H., Jr. *Setup: What the Air Force Did in Vietnam and Why?* 1991.

Dr. Tilford argues that air power was never used decisively in Vietnam. The accepted wisdom within the military—particularly the U.S. Air Force—is that political restraints, a biased press, and the antiwar movement combined to constrain the potential effectiveness of air power. Acceptance of these assumptions led to the development of a "hands-tied-behind-our-back thesis" within the air force; an assumption reminiscent of the stab-in-the-back thesis accepted by most of the German officer corps after World War I. Tilford argues that while there is a large element of truth to the standard military interpretation, the fuller explanation of defeat lies in faulty military leadership and the air force's pursuit of institutional prerogatives and its adherence to strategic bombing doctrine. These elements combined to foster strategies inappropriate to the war at hand and, ultimately, led to defeat.

Westenhoff, Charles M. *Military Air Power: The CADRE Digest of Air Power Opinions and Thoughts.* 1990. 224pp.

Colonel Westenhoff provides a collection of quotations on issues about the utility and potential of air power that will be of concern to U.S. Air Force professionals throughout their careers. The topics include "Air Force," "War Technology," "The Principles of War" and "Command." This digest is organized to be a handy reference.

Cardwell, Thomas A. III. *Airland Combat: An Organization for Joint Warfare.* (forthcoming in 1991)

Colonel Cardwell addresses one aspect of the U.S. Joint doctrine for unified operations within a theater—joint warfare for airland combat. He proposes an organization that has a single joint force or theater commander and three component commanders (naval, ground, and air). Cardwell begins with a historical review of airland combat organizations. He traces the development of airland combat strategy from before World War II through its end, the Korean War, and the Vietnam War. He then outlines current thinking of the unified command structure. The author proceeds with an analysis of Army Airland battle doctrine, air force doctrine on tactical air operations, naval doctrine for supporting land warfare, and joint doctrine for unified operations. He ends by examining the process for working joint issues and by proposing an organization for airland combat.

Davis, Richard L. and Frank P. Donnini, ed. *Professional Military Education for Air Force Officers: Comments and Criticisms.* (forthcoming in 1991)
Professional military education (PME) has been an important part of the career development program for air force officers since the aerospace branch became a separate service in 1947. Although PME is now well established and widely regarded as successful, it has been the subject of continual commentary and criticism. This study is a summary of 40 years worth of PME appraisals. It is intended as a reference source for future assessments of PME at the Air University.

Pittman, Benjamin C. *The ABCs of ABO: A Doctrinal Approach to the Air Base Operability Problem.* (forthcoming 1991)
Despite recent political changes in the Soviet Union and Eastern Europe that indicate a lessening threat to our forces, the Soviet forces continue to have the capability to threaten the survival of one of our most important components of our war-fighting arsenal—the air base. Colonel Pittman argues that although air base operability (ABO) is absolutely critical to sustaining combat operations, the air force has no published ABO doctrine. To help in developing such doctrine, the author provides an in-depth look at the four pillars of ABO: defense, survival, recovery, and sortie generation. Pittman provides an annex that summarizes some of the doctrinal concepts that could be used by air force planners in writing and publishing ABO doctrine.

Shultz, Richard and Robert Pfaltzgraff, ed. *The United States Air Force: Aerospace Challenges and Missions in the 1990s.* (forthcoming 1991)
This book of proceedings from the Third International Security Studies Program Symposium is sponsored by the Fletcher School of Law and Diplomacy at Tufts University, the Air Staff at Headquarters USAF, and the Air University. The contributors include specialists from academe, the military, government, business, and the media. They collectively examine the following issues: "Strategic Factors Reshaping the U.S. Air Force and its Mission;" Air Power as a Component of Joint/Unilateral Operations for Power Projection;" Air Power Strategies for Extended Deterrence;" Designing Aerospace Force Structure for the Emerging Security Environment;" Constraints on Aerospace Force Structures;" and Acquisition Priorities and Strategies for the 1990s." These essays provide a foundation for evaluating the complex policy and force restructuring challenges that U.S. leaders must meet in the 1990s and into the early years of the next century.

Spangler, Stanley E. *Force and Accommodation in World Politics.* (forthcoming 1991)
Dr. Spangler notes that using threats of force as a bargaining tool to secure political objectives is as old as the history of human conflict. He traces its practice

from the time Athens threatened Melos in 400 B.C. to the recent use of U.S. and coalition forces against Iraq's occupation of Kuwait. Such leaders as Charlemagne, Genghis Khan, Adolph Hitler,and Joseph Stalin have successfully used force or the threat of force for bargaining purposes. Some U.S. presidents—from William McKinley and Theodore Roosevelt to Lyndon Johnson and Ronald Reagan—have enjoyed the same success. Spangler demonstrates that the United States has too frequently relied on military force to secure political objectives without fully understanding the relationship between force and diplomacy, between "sticks and carrots." He shows how military force can be most effective when combined with various kinds of inducements. Dr. Spangler examines why and how the United States and the Soviet Union for many years neglected the inducement-accommodation element of bargaining. His primary hypothesis is that positive inducements (carrots) have been ignored, underused, or misused in many crises by both the U.S. and the Soviets with negative results. Positive inducements, according to Spangler, tend to lead to settlements between super powers that are more stable over the long run. Spangler argues that conciliatory steps should be an integral part of any strategy for managing conflict in crisis situations.

Ventresca, Rudolph. *Organizational Structure for Air National Guard Tactical Aircraft Maintenance.* (forthcoming 1991)

The author analyzes and assesses the changes in the organizational structure of the active air force and the air national guard (ANG) fighter maintenance units from the time the ANG became a separate reserve component in 1946 to the present. Colonel Ventresca provides insights into the ANG tactical air forces maintenance organization by chronicling the past, reviewing the present, and projecting the future. He takes into account the things that may likely affect the way tactical maintenance units will organize in the future and if ANG maintenance units will continue to parallel the organization of active duty air force tactical fighter maintenance units.

In a future issue we will list and describe the National Defense University's recent and forthcoming publications.

REVIEW PRIZE WINNERS

The President of the Naval War College has announced the winners of the 1990 *Naval War College Review* Prize Article Awards:

First Prize ($500) to Colonel Richard M. Swain, U.S. Army, of the Army Command and General Staff College, for " 'The Hedgehog and the Fox': Jomini, Clausewitz, and History" (Autumn 1990);

Second Prize ($300) to Mr. Ashley J. Tellis, Century Fellow at the University of Chicago, for "Securing the Barrack: The Logic, Structure, and Objectives of India's Naval Expansion" (Summer and Autumn 1990);

Third Prize ($200) shared by Captain Arthur M. Smith, U.S. Naval Reserve, of the Uniformed Services University of the Health Sciences and the Medical College of Georgia, and Colonel Craig H. Llewellyn, U.S. Army (Ret.), of the Uniformed Services University of the Health Sciences, for "Tactical and Logistical Compromise in the Management of Combat Casualties: There is No Free Lunch!" (Winter 1990).

These awards are made possible through the generosity of the Naval War College Foundation, a private non-profit organization dedicated to improving the quality of the educational resources of the Naval War College in areas where federal funds are not available. The Prizes are given in memory of the late Captain Hugh G. Nott, U.S. Navy (Ret.), who made major contributions over a period of ten years to the academic and research life of the Naval War College.