

On assuming duty as Chief of Naval Operations in August 1963, Admiral David L. McDonald said, "In many ways I believe that our Navy is in better shape today than it has ever been in times of peace."

But if we were to look at the reverse of the coin by asking in which ways our Navy is in *worse* shape today than it has ever been in the past two decades, naval gunfire support would quickly come to mind. Evidently, it has indeed come to the mind of General W. M. Greene, Jr., Commandant of the Marine Corps, who has drawn sharp attention to what he referred to as "the gun gap."

Sad but true, ships' gunfire support, now a professionally unfashionable backwater of naval capability, forced to the wall by more glamorous competing weapons and by shipbuilding and development programs preponderantly pointed toward general war, is one of the few significant areas of naval performance in which the Fleet of today (including the Fleet Marine Forces) could not hope to equal the standards of training, of shipboard skill, of planning expertise—let alone results against hard targets—that were commonplace in 1944–1945.

The ability of the U. S. fleets to conduct successful opposed landing operations has been taken for granted since World War II. In 1945, a senior officer who should know, Lieutenant General Tadamichi Kuribayashi, the tenacious and able Japanese commander on Iwo Jima, radioed back to Tokyo shortly before his death: "The firepower of the American warships and aircraft makes every land-

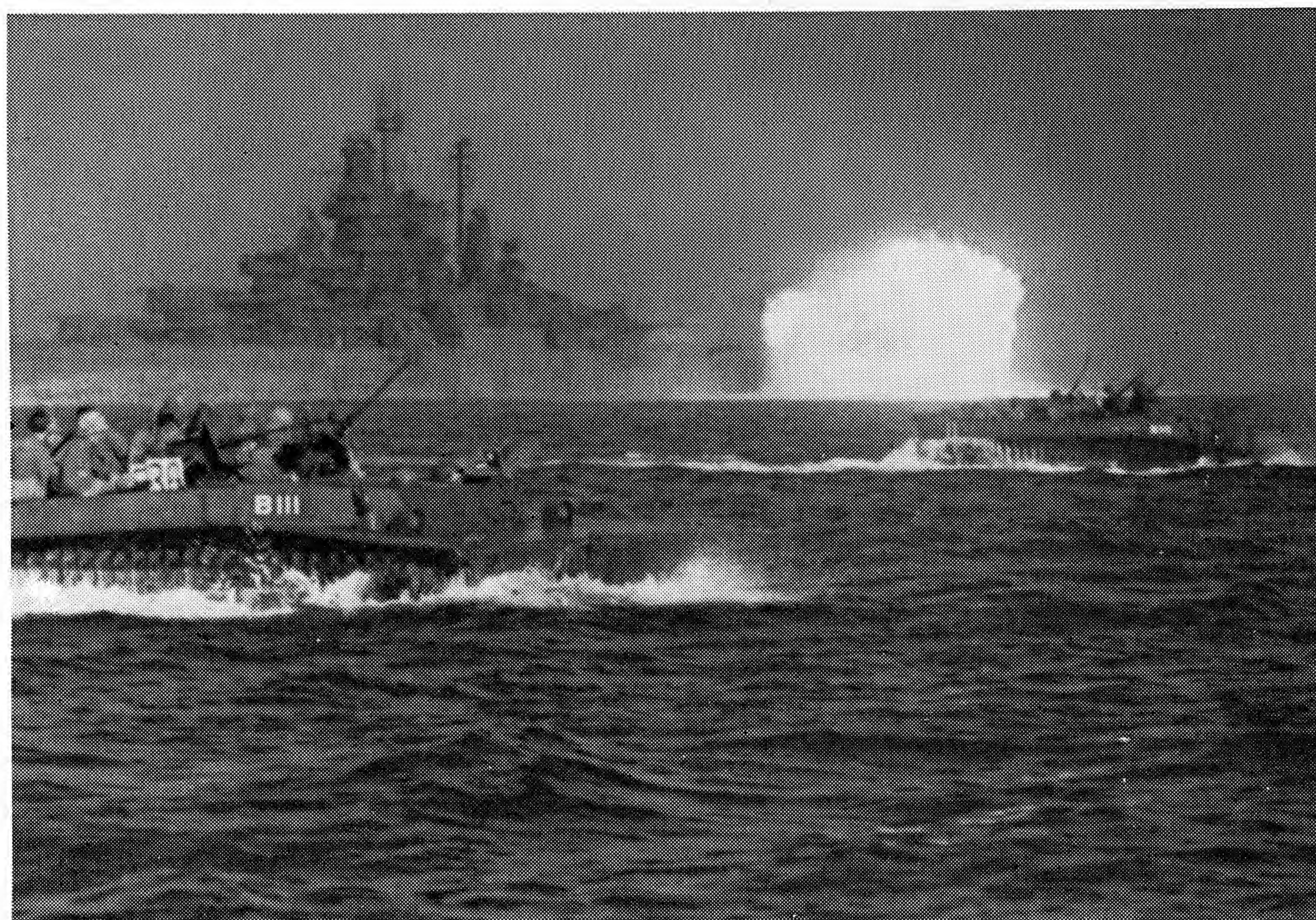
ing possible." And in 1964, Vice Admiral J. S. McCain, Jr., described amphibious warfare as "a unique means of carrying out our national objectives."

This vital and vaunted capability—that of forcing home any landing attack and of supporting it beyond any question of failure or fall-back—depends above all on firepower. Yet, today, it is at very least questionable, most certainly arguable, whether our active fleets embody the aggregate non-nuclear firepower—be it aviation, guns, or missiles—required to *assure* success in a seriously opposed assault landing.

The Dominant Arm. Among the agencies of amphibious fire support, naval gunfire has been the dominant arm in all past assaults. This dominance can be measured by various yardsticks such as weight of fire, rapidity of response, all-weather capability, economy, uninterrupted availability, and peak power during the beach assault itself. From records of past opposed landings, we know, for example, that the tonnage of ships' gunfire employed on D-Days has been on the order of five to six times that delivered by aviation; and that, even in prolonged, large-scale amphibious battles in which artillery and aviation have been well established ashore and used without stint, the tonnages of ships' gunfire delivered against shore targets have still generally exceeded those from the other arms.

It was Marshal Saxe who said, of weight of firepower, that it took a ton of lead for every enemy casualty. In the 18th century, this was

The author asserts that neither today's Fleet nor our Fleet Marine Force could hope to equal the results that were commonplace in landing operations against hard targets in 1944–1945.



probably so. Now the price has gone up. On Guam—a model operation in terms of coordinated employment of firepower—1.76 tons of bombs or projectiles of all calibers were required to produce each enemy casualty, while, in the Italian campaign of World War II, it has been calculated that from 3.5 to 4 tons of projectile and bomb weight were expended for every casualty.¹ Whether, in future campaigns, the weight of metal necessary to inflict casualties will be that of Maurice de Saxe, that of Guam, that of Italy, or, as might be inferred from all three figures, something still higher, a tremendous bulk of firepower will be needed.

It will thus be clear from the foregoing statistics that the ability to deliver large tonnages of firepower onto any battlefield, especially the amphibious one, is crucial, and that, in the case of amphibious warfare, the means of delivery, which up to the present has consistently been the heavy hauler, is one which we overlook at considerable peril.

Yet, this is just what we have been doing. While the nuclear stalemate continues, and with gunboat diplomacy very much alive these days, the most powerful conventional means of firepower should obviously be kept at full availability; but despite this evident fact, and despite an encouraging revival of conventional warfare capabilities in many

other fields, our 1945 assets in the realm of naval gunfire support have eroded steadily, even in face of extensive use of ships' gunfire in Korea.²

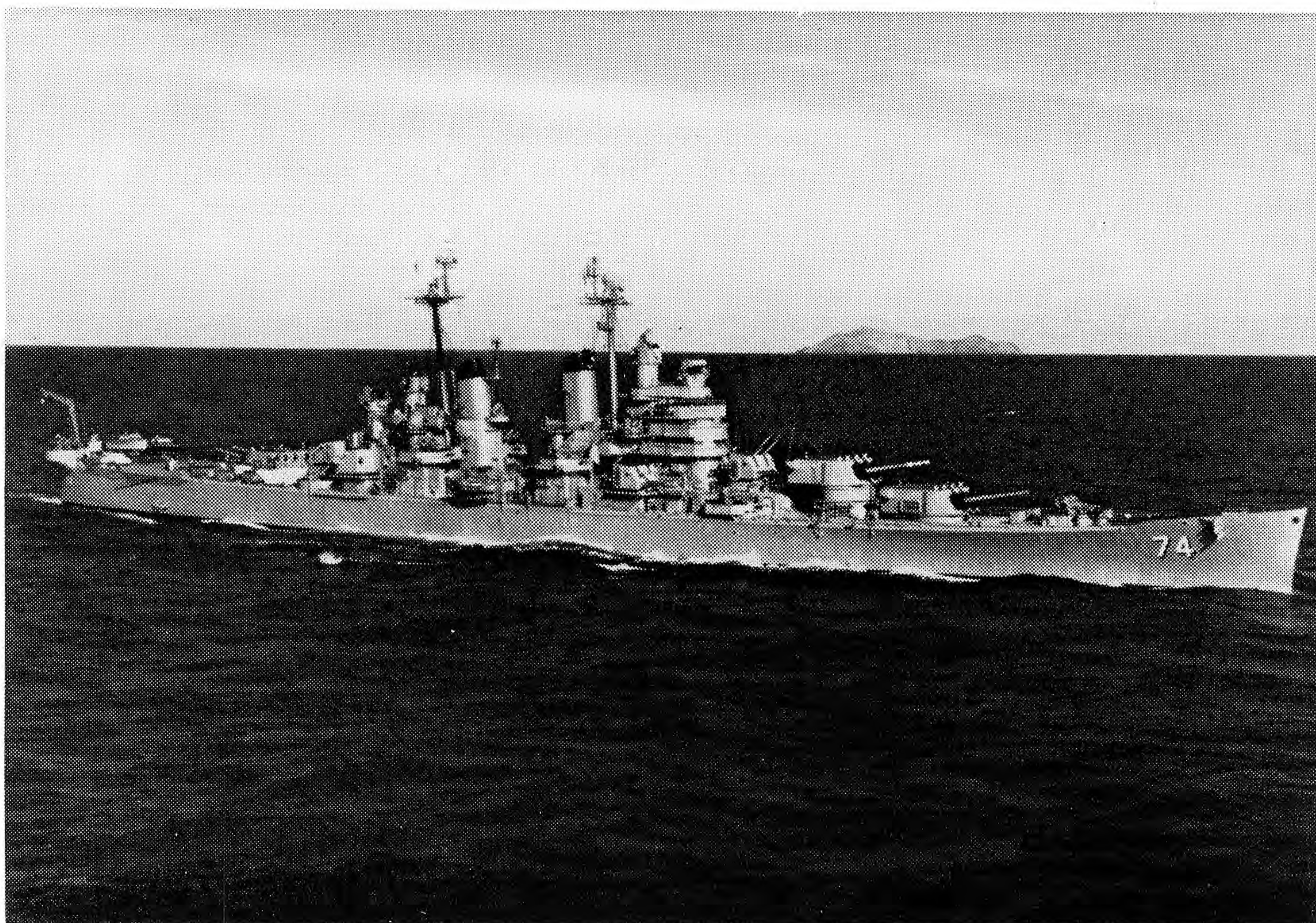
Alternative Possibilities. It is often asserted, usually in general terms without supporting specifics, that air and missiles have largely taken over the role of naval gunfire in amphibious operations,³ or that "new developments," either classified or unspecified, will do the job. These assertions remain to be proven and supported. So far as I know, there is no way, in a non-nuclear operation, to support an opposed landing today or in the foreseeable future without guns and bombardment rockets in a central role.

Support aircraft, especially of the Marine Corps and Navy, highly trained in precision attack, operating in a rational command

² During a ten-month sample period in Korea, in 1951–52, the Navy fired 24,820 naval gunfire missions, approximating 1,500 tons of projectiles, against shore targets.

³ An example of such claims was that of the Eighth Air Force during the fire-support planning for Normandy (Omaha Beach) in 1944. Air planners, claiming an all-weather precision bombing capability, took on the massive "beach-drenching" role normal to ships' guns. On the night before D-Day, when heavy overcast was predicted, and without informing the landing force, the air commander ordered a one-minute delay in dropping bombs, so as to ensure troop safety. As a result, the thousands of tons of bombs which the troops expected to plaster the formidable German beach defenses, fell 3–5 miles inland on French pastures. The fearful—and largely unnecessary—casualties on Omaha Beach are a matter of record.

¹ World War II records kept by the Naval Gunfire Section, FMF Pacific, indicate that some 172,000 tons of naval gunfire support projectiles were fired in landings during the Central Pacific Campaign.



The USS *Columbus* (CA-74) bristled with conventional armament in 1952. On the opening pages of this article she is seen in her new garb as a guided missile cruiser (CG-12), steaming past the USS *Kitty Hawk* (CVA-63).

framework based on years of combat experience and intended to be responsive to the needs of the landing force, are indispensable in an amphibious operation. However, any type of air support, even the best, is subject to difficulties of control, limited availability, and—if the air effort is joint or combined—inordinate delay and unacceptable response time (those with Korean service will remember that requests for urgent air attacks against fleeting targets or for vital tactical purposes, when processed through the Joint Operations Center, Eighth Army, sometimes involved anywhere from seven to 24 hours delay in response).

In addition, the airplane and its pilot are an expensive team for the delivery of bulk ordnance onto enemy heads. The principle of economy of force, even that of cost-effectiveness, demands that air should be reserved for targets of high priority which cannot be attacked by any other means. Based on past experience, there will always be an ample supply of such targets, fully sufficient to occupy the strike-potential of available aircraft without trying to overextend the role of aviation into areas where less deluxe types of firepower will serve.

Many of the objections just raised against trying to substitute air for naval gunfire apply equally to surface-to-surface bombardment missiles (if any such actually exist in the here and now). But the missile is enormously more costly than the old-fashioned, immensely reliable, 16-inch, high-capacity projectile, whose range is not much less than that of

battlefield missiles, whose conventional payload is comparable, and whose accuracy, certainly to date, is as good or better. In fact, at least so far as published reports shed light on the rather stately developmental progress of landing force support missiles, we read only of disappointments—Lance, and Taurus, for example—and are left with a distinct impression that the current replacement for the 16-inch gun's proven ability to destroy hard precision-targets is—a vacuum.

It has been calculated that within certain ranges it would cost as much as 50 times as many dollars to neutralize a given area using non-nuclear surface-to-surface missiles as it would to do the same job with naval guns and bombardment rockets now in existence.

The words, "now in existence," have particular bearing on the possible substitution of bombardment missiles for naval guns. For it appears that, in order to save maintenance dollars, while we have scrapped or mothballed practically all our older ships with heavy (i.e., 8-inch–16-inch) gun power, we have as yet no missile in service, or anywhere near service, which, regardless of cost-effectiveness, is capable of pinpoint destruction of the hard targets which our old battleships and heavy cruisers of 1945 routinely blew sky-high.

If our fleets were called on to execute an opposed amphibious operation next week, there would certainly be no doubt that, among the means presently and for some time at hand, the vanishing naval gun would be the most reliable, cheapest, all-weather weapon.

Only four ships in today's active fleets are armed with 8-inch guns, and two of these, the USS *Boston* (CAG-1), *right*, and the USS *Canberra* (CAG-2) have had one of their three turrets replaced by Terrier missile launchers.



The Gunfire Support Problem. Up to this point, we have considered naval gunfire support almost entirely in terms of materiel, that is, as a problem of ships, guns, ammunition, and competing or alternative materiel systems. Because materiel is the most tangible and therefore readily grasped aspect of gunfire support, it is the portion of the iceberg that we usually see above water.

The truth is, however, that, like the ASW problem, the problem of naval gunfire support cuts across many fields and extends far beyond questions of materiel. To obtain effective naval gunfire demands specialized personnel, continuous training of ships and landing force units, reliable communications, navigational virtuosity, capable staff and control organization, and considerably more developmental impetus than has apparently been devoted to the subject in some time.

To be more specific, the prime contributing elements of gunfire support are as follows: *Materiel*—ships, number and calibers of available guns (i.e., Fleet gun-barrel population, or GBP), magazine capacities of ships suitable for shore bombardment, and ammunition reserves afloat or ashore.

Organization for command and control—a shore fire control and naval gunfire (NGF) liaison organization in the landing force, and full-time representation of the naval gunfire/amphibious gunnery specialty on all amphibious and Fleet Marine Force staffs, and—of special importance—in the headquarters of the Chief of Naval Operations and the Commandant of the Marine Corps.

Training—as always the key ingredient, but here more difficult—as in ASW—because of the wide and disparate range of participating agencies and detailed component techniques to be mastered.

Doctrine and development—adequate, up-to-date doctrine, publications and bombardment charts, and vigorous, imaginative developmental effort.

We might reduce the elements just given to a mathematical formula as follows:

$$\text{NGF} = (\text{S} + \text{GBP} + \text{MC} + \text{R}) + (\text{SFC} + \text{LN} + \text{STF} + \text{HQ}) + \text{T} + [\text{D} + (\text{P} + \text{CH}) + \text{DVL}]$$

Where We Stand

Ships. As noted before, we have scrapped or mothballed a preponderance of the conventionally armed, older heavy ships which represented our conventional war capability as of 1945. All rocket ships and all ships with batteries heavier than 8-inch guns have either been broken up or are in reserve. As this is written, the major-caliber gunpower of the active Navy is down to four heavy cruisers, two of which, the USS *Boston* (CAG-1) and the USS *Canberra* (CAG-2) have each had one of their three 8-inch turrets removed in favor of Terrier missiles. To make a bad situation worse insofar as gunfire support is concerned, the missile-equipped heavy cruisers will very likely be employed with fast carrier task forces or as fleet command ships, and in either role their 8-inch batteries, so badly needed for bombardment duties, will be effectively lost. Planners, confronted with the necessity of stretching resources, especially in



Not only have guns given way to missiles but also to other weapon systems. During her FRAM overhaul the USS *Perry* (DD-844), for example, lost two of her six 5"/38 guns.

the paper phases of warfare, suggest that the missile-equipped heavy cruisers might well be assigned to provide missile defense of an amphibious objective area and thus be theoretically available for fire-support duties, too. But the whole weight of combat experience shows that whenever a fire-support ship has a second simultaneous mission, fire-support responsibilities tend to be slighted, usually at the worst possible time. Having learned this lesson at some cost during the Gilberts and Marshalls, do we have to re-learn it in the 1960's?

Harking back again to Korean War days, of 1952-1953, it is still a painful memory that the only ship in the U. S. Navy then possessing a shore-bombardment fire-control system, USS *Salem* (CA-139), was so badly needed in the Mediterranean that she never got to the Far East, then the only place in the world where shore bombardment was being routinely conducted. Thus was lost an irretrievable opportunity for combat test—at Wonsan, for example—of a highly interesting if not revolutionary development in the field of naval gun-fire support. This system, incidentally, or its descendants, is now embodied in a few ships, but the majority of those still equipped with guns—and therefore the presumed basis of our remaining fire-support potential—do not have anything of the kind, and will not.

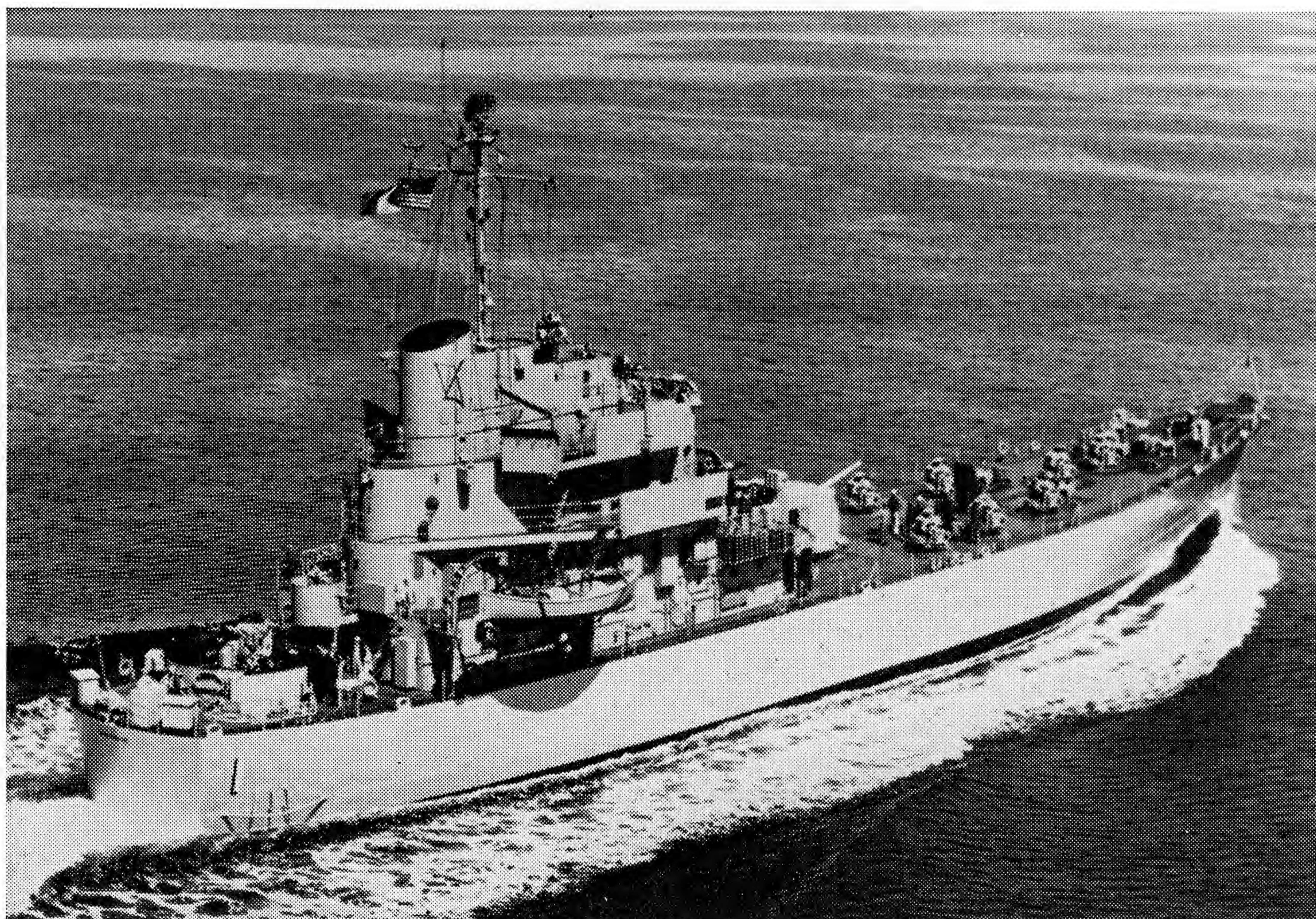
Fleet gun-barrel population (GBP). While the rapid trend toward a gun-less, general-war-configured Navy seems to have been checked or at least slowed down, the net loss of gun-barrels on suitable platforms (i.e., destroyers, cruisers, battleships) is the basic phenomenon

which has so gravely eroded the shore-bombardment capability of the Fleet today. Not only have guns given way to missiles on new construction, but also in modifications of existing ships, such as the FRAM program which, while producing much more effective ASW ships, has, in the case of each 2,200-ton destroyer involved, reduced her trusty 5"/38 gunpower by one-third (i.e., by removing two out of six guns).

While it is said to be theoretically true that, on a Fleet-wide basis, introduction of the new 5"/54 rapid-fire guns in new destroyers offsets the loss of 5"/38s in FRAM ships, an acceptable Fleet-wide balance will be small comfort to a hard-pressed battalion being supported by a four-gunned 5"/38 ship when the nearest 5"/54 is hundreds of miles away in a task force screen. And, in any case, it has been estimated that, if current building, disposal, and ship-modification programs continue as now planned, about three-quarters of even the remaining gun barrels of the combatant ships of the Fleet will be gone by 1975. Then, how do we propose to support amphibious assaults?

Magazine capacities and reserves. Obviously the ability to carry a given load of ammunition to the scene virtually determines the amount of gunfire support which can be fired in support of a given operation. Thus, the magazine capacities of the Fleet for gun ammunition imposes fixed limitations which, despite greatly improved techniques for underway replenishment, largely control the scope

The author considers the Navy's announcement of the imminent reactivation of the USS *Carronade* (IFS-1) and three LSMRs as a "highly encouraging development."



and tonnage of the naval gunfire bombardment effort. Behind the magazines afloat and the stocks in ammunition ships, lies the factor of national stocks in magazines ashore, and of production actions taken to maintain or augment such stocks. Here again the picture seems bleak. A hasty look at the fleets planned for the 1970s strongly suggests that, if we had to mount a major landing in that period, the then existing magazine capacity of the entire U. S. Navy would not be sufficient to meet the ammunition requirements for one single operation of this kind as supported in World War II. While I have no information on national gun-ammunition stocks or on plans for their maintenance, the structure of future fleets as now visualized hardly renders likely the continuing existence of ammunition stocks on anything like the scale which past experience in amphibious assault has shown will be required.

Command, control, and staff organization. The organization for shore fire control and naval gunfire liaison exists and is in working order. One powerful factor in keeping this portion of the art alive has been the existence since 1949 of the Marine air and naval gunfire liaison company, or "ANGLICO," one of which is assigned to the Force Troops of the Atlantic and Pacific Fleet Marine Forces, respectively. This unit, composed entirely of naval gunfire and tactical air support teams, has been the principal reservoir of shore fire control skill for the Fleet Marine Forces, in fact for the Armed Forces as a whole. Additionally, of course, the Marine divisions have

their own shore fire control and NGF liaison teams, but in 1952 the division ANGLICO was disbanded as an entity by land-minded thinkers who were fresh from Korea's largely non-amphibious war. The lack of an ANGLICO in the Marine division has unquestionably diluted our naval gunfire skills and capabilities and has frequently degraded the division's organic shore fire control parties into the status of "spare parts." Yet, what part of the Marine division, other than the shore party, is more distinctively and uniquely amphibious than its means of obtaining and using the fire-support of the Fleet?

Above this level the condition is one of almost unrelieved decay and desuetude. The once active special staff function of the naval gunfire officer at Marine division and FMF headquarters has—even though still remaining in tables of organization—been downgraded in importance or allowed to lapse into the hands of a naval liaison officer. In the amphibious groups a fleet gunnery officer—once a highly trained amphibious gunnery specialist—is now usually just another body, while the gunfire support function has been merged into something called "fire support" or "weapons." The Marine gunfire support officer assigned to each amphibious group is now rarely used in this role, nor is he usually trained or qualified to be so used.

Worst of all, and undoubtedly a main reason for today's problem, gunfire support, as a staff function, was completely unrepresented, for nearly a decade, in the top echelons of the Navy Department. Neither Marine



If, as the author fears, the cost of reactivation of a battleship, such as either the *New Jersey* or the *Iowa*, is presently prohibitive, he urges raising at least one battleship to readiness for recommissioning within 30 or 45 days.

Corps Headquarters nor the Office of the Chief of Naval Operations had a full-time naval gunfire/amphibious gunnery officer billet for at least a decade (1954–1964), although the other supporting arms—aviation, missiles, artillery—had and, of course, have continuing staff representation and specialist advocacy in either or both headquarters. It is no accident that the sharpest period of decline in our naval gunfire support potential has coincided with a period in which this mode of fire support was seemingly not considered important enough to warrant a voice at the top.

(To do Marine Corps Headquarters justice, one of the first personnel actions of General Greene on becoming Commandant in 1964 was to reinstate a naval gunfire officer billet in the G-3 Division, thus filling a gap which had existed since 1954. No comparable action has, at the time of writing, been taken in the Office of the Chief of Naval Operations.) *Training.* Compared to the tempo of training which produced the superb naval gunfire support of 1944–45, today's training is insufficiently exacting and insufficiently comprehensive. In many cases, ships have to rush through bombardment exercises as bottom priority items in already overcharged training programs. The exercises themselves, let alone standards of evaluation, do not approach the demands made on World War II fire-support ships in the Pacific. Some ships, through combinations of favorable factors, still shoot beautifully and prove that there is no magic in shore bombardment; but, just as the Navy's shooting in Korea was generally poorer than 1945's, today's Navy shoots less and worse shore bombardment than it did in Korea, simply because of lack of training emphasis. Hopefully, however, one hears that the screws are being tightened with regard to bombardment training and that the forthcoming months will bring higher priority and, just as important, higher qualifying standards for ships. We shall see.

As for formal advanced training of amphibious gunnery officers or troop naval gunfire officers—the staff and planning backbone of the system—it simply ceased about ten years ago and has never been revived. The comprehensive Naval Gunfire Officer Course, given by Marine Corps Schools for some



A GRADUATE of Yale College, Colonel Heinl entered the Marine Corps in 1937 via the NROTC. Prior to retirement for physical disability in 1964, he had served widely in the field of naval gunfire support and shore bombardment, having successively been naval gunfire officer, 3d Marine Division, and V Amphibious

Corps during World War II. He also had postwar tours as naval gunfire officer, FMFPac, and Director, Naval Gunfire Officer School, MCS, Quantico. In Korea, he commanded the UN-held East Coast Islands, and subsequently served with the 1st Marine Division. Between wars his duties included direction of the Historical Branch, HQMC; instructing at the School of Combined Operations, Fremington, North Devon, England; and five years as Chief, U. S. Naval Mission to Haiti. Recently back from Santo Domingo as a war correspondent, Colonel Heinl now writes and lectures on military and political subjects.

years, has not been held in almost a decade. This advanced course, attended by Marine, Army, and allied artillery officers, and by Navy amphibious gunnery officers, was the only one of its kind in the world.⁴ When it stopped, the supply of professionally trained naval gunfire officers was cut off, and the decline of the art thereby virtually guaranteed.

Another area where effective training has simply stopped—and stopped long ago—is naval gunfire air spotting. Ships of course no longer carry float-planes whose pilots' main job was spotting, while cruiser helicopters find it dangerous indeed to brave today's flak with nothing below them but an auto-rotating descent to a hostile shore. In World War II, the Navy had two superbly trained carrier squadrons (VOF-1 and VOF-2) of high-performance air-spotters capable of surviving flak and fighters, adjusting gunfire and artillery, reading maps, finding and identifying targets. In 1946, this tested expedient was blandly junked.

Doctrine and publications. Existing doctrines for naval gunfire support, which essentially represent careful distillation of World War II and Korean experience, are solid and

⁴ As a matter of historical interest, the lone British graduate of this course was abruptly ordered home from Hong Kong in 1956 to prepare the fire plan and act as force naval gunfire officer for the Suez landing, a role which he filled with distinction.

tested, and are well stated in today's NWP-22, which owes so much to the unsung work, a few years ago, by Admiral Thomas S. Combs and General Merrill B. Twining and their juniors.

Below the level of NWP-22, the quality of the implementing publications, both Marine and Navy, drops appreciably—sharply, some would say. One overlooked yet critical area of short-fall is that the large-scale charts which are mandatory for accurate naval gunfire support (the 1:25,000 chart, so-called NATO “amphibious chart”) are no longer being produced. It is next to impossible to plot precision NGF fire-missions with sufficient accuracy on a 1:50,000 chart, no matter how compellingly attractive this magic scale may be from the viewpoint of standardization, production, use by aviators, etc. Here is a problem, probably not unique to naval gunfire support, which has been swept under the carpet and ought to be rethought.

Development. A *Navy Times* article of 6 January 1965 shed presumably unintended light on the state of naval gunfire support development insofar as the needs of today are concerned. With italics supplied by me, here are excerpts from this article obviously intended by its source (described only as “a high ranking Naval officer”) to convey the impression that complaints about the “gun gap” are wide of the mark and that all's really right with the world:

The Navy has ordered full steam ahead on a many-pronged program that, *by the mid-1970s* not only will eliminate the “gun gap” but will actually exceed the firepower the Marines insist they need . . . a program calling for *development of surface-to-surface guided missiles* mounted on “super” landing force support ships. . . . Development of these ships, *scheduled to make their appearance in 1972–1975*, already has begun. Only the incorporation of the *missiles, which must be especially constructed and developed*, is holding up *drawing of blueprints*. . . .

This prediction can be translated to read as follows: “If you are prepared to wait ten years during which we hope there will be no acute need for naval gunfire support, and if we ever develop a practicable surface-to-surface bombardment missile, we can then start drawing blueprints for a ship which, if ever funded and built, about 1975, will, we imagine, have firepower enough to make

these Marines stop complaining.”

So far as today's—not 1975's—state of naval gunfire and shore bombardment development is concerned, it is difficult, without lifting the curtain of security, to evaluate the progress of the effort, except to note that few if any major developments in this field have become known to the Service during the past decade.

A good indicator of the moribund state of naval gunfire doctrine and development—and maybe an important cause of it—is that the once annual Naval Gunfire Conferences convened in the 1950s under joint Navy/Marine sponsorship have not been held in many years. Apparently the Navy and Marine Corps did not think they were worth the per diem involved—or perhaps there are not enough qualified officers left to attend such conferences.

Are We Fooling Ourselves? The state of affairs described in the foregoing paragraphs is not an encouraging one. From the materiel point of view (and here I include development as well) the root of the problem is one of allocation of funds, effort, and manpower in competition with the other pressing demands of the Navy. In making such allocations, however, the fact ought to be faced—and I doubt that it has, or if so, only quite recently—that unless the continuing degradation of once superlative gunfire support capabilities is not only halted but reversed, our ability to ram home opposed landings will cease to exist. We have taken this capability for granted since World War II, and our confidence was renewed at Inchon, but are we fooling ourselves today?

Well, then—short of recreating and reactivating the 1945 surface Navy, what steps should be taken to close the “gun gap” (which, as we have seen, involves so many things other than guns), to close it now rather than in 1975, and thus revive our drooping amphibious fire-support? To readers who have come this far, I hope several possibilities will suggest themselves.

An essential first step would be to halt all decommissionings, conversions, or ship alterations which reduce the Fleet's gun-barrel population, its magazine-capacities, or other shore bombardment capabilities.

A second step—on which encouraging progress has been publicly reported—would be to

recommission additional conventional heavy cruisers in both the Atlantic and Pacific Fleets. The question of reactivating a battleship—probably in the Pacific Fleet—ought to be carefully considered. According to press reports, we are now regularly conducting shore bombardment in Vietnam, using 5-inch and 6-inch guns. Think how much greater return we could realize from the virtually doubled range inland and enormously multiplied hitting power of 16-inch projectiles, and how much more economical such gun strikes would be than air attacks against the same targets.

If outright activation is too much for the present, why not raise at least one reserve fleet battleship to readiness for recommissioning in 30 to 45 days? And, while we are talking about recommissioning, it seems little short of foolhardy that not one rocket ship remains active. For the state of the art alone, the single IFS ought to be recommissioned; for the state of our amphibious capabilities, it would be better to have one active rocket division, even at reduced strength, on each coast.⁵ It would also be good to have a shore bombardment computer and fire control system in every ship—*destroyers especially and particularly*—mounting guns which might be used in gunfire support.

Obviously, another step should be to reinvigorate and add thrust to research and development projects dealing with amphibious fire support. If cruisers and battleships—our only present means of destroying hard targets—are too expensive, then we should be thinking of alternatives, such as the “super landing force support ship” bruted earlier. Maybe the monitor concept, which the British used, with considerable technical ingenuity, even in World War II, deserves examination as a source of heavy, long-range naval gunfire on the cheap. (However, we should be wary of creating single-purpose

ships unless very clear and special superiority is shown; much of the Navy’s genius and capability stems from the all-around flexibility and usefulness of ships in many different roles.) And what about Admiral McCain’s imaginative proposals for “commando ship” conversion of existing battleships?

Hand-in-hand with the moves just proposed, are required a number of less obvious but equally important actions in the interlocking fields of people and training. Among these, the unquestionable top-priority step would be to add a full-time amphibious gunnery billet to the CNO’s staff just as a full-time naval gunfire officer has recently been detailed to Marine Corps Headquarters. Such a step, which would cost so little compared to the big materiel actions, would exert a healthy influence out of any proportion to the weight of the billet.

Annual Naval Gunfire Conferences should be recommenced at Quantico without delay; this is something that could be done in the summer of 1966—but will it? Advanced-level naval gunfire schooling is direly needed. This deficiency could quickly be met by reconvening Quantico’s Naval Gunfire Officer Course with an input of midrank Marine and Navy officers of suitable background.

Assuredly, the air and naval gunfire people within the Marine division should be regrouped into a reconstituted division ANGLICO; until we do so, can we honestly describe a Marine division as amphibious? Training requirements for fire-support ships should be given higher priority, shore-bombardment qualification standards should be raised, and existing bombardment exercises ought to be continually reviewed for possible improvement.

A long bill of particulars and an expensive list of recommended actions, you say?

True enough.

But if we are not prepared to pay for fire-support on a scale which is adequate to underwrite success in opposed landings, then we should accept squarely that, whatever amphibious capability we now possess, it will soon no longer be one of assault.

⁵ As this article goes to press, information has been received that four rocket ships, including the one IFS, are to be reactivated during the forthcoming fiscal year. If correct, this is a highly encouraging development.