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RESEARCH REPORT

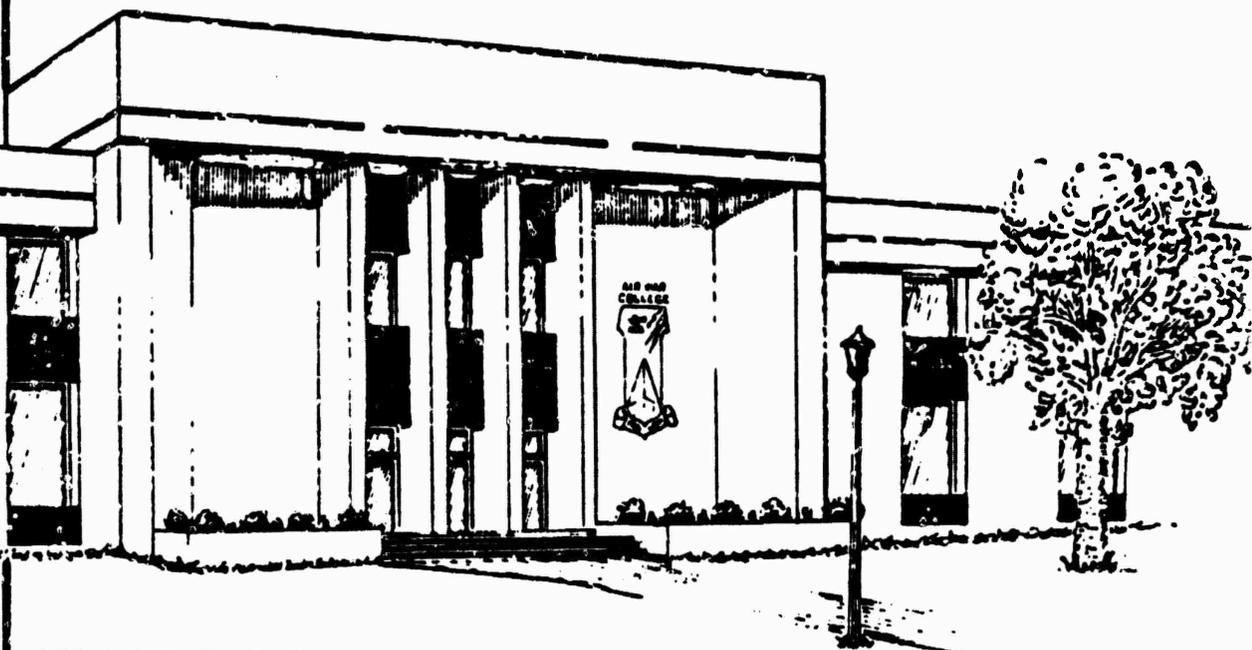
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THE FALKLANDS CONFLICT:
BLUEPRINT FOR LIMITED, HIGH-TECH WAR

By COLONEL STEVE R. SMITH

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AIR UNIVERSITY
UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

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THE FALKLANDS CONFLICT:
BLUEPRINT FOR LIMITED, HIGH-TECH WAR

by

Steve R. Smith
Colonel, USAF

A RESEARCH REPORT SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE RESEARCH
REQUIREMENT

Research Advisor: Group Captain Peter Bond

MAXWELL AIR FORCE BASE, ALABAMA

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AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

TITLE: The Falklands Conflict: Blueprint for Limited,
High-Tech War

AUTHOR: Steve R. Smith, Colonel, USAF

— In the aftermath of the Falklands Conflict of 1982, there occurred a welter of claims and counterclaims as to what happened, the significance of it, and the lessons learned. The war encompassed several aspects of particular interest, such as joint warfare and high-tech weapons. The purpose of this research report is to examine some of these areas, and arrive at a conclusion of use to airmen for possible future conflicts of a similar nature.

2 A to P. V

BIOGRAPHICAL SKETCH

Colonel Steve R. Smith is a command pilot with almost 5,000 hours flying time. He is a 1965 graduate of Arizona State University with a B.S. degree in Geography, and completed a M.S. from Arkansas State University in 1976. He completed Squadron Officer School by correspondence in 1974, and the Air War College by seminar in 1984. Colonel Smith has served tours in Thailand and Guam, and flew 213 combat missions in Southeast Asia. He received the Distinguished Flying Cross, the Meritorious Service Medal with one Oak Leaf Cluster, and the Air Medal with nine Oak Leaf Clusters. Colonel Smith is a graduate of the Air War College, class of 1986.

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CHAPTER I

INTRODUCTION

The Falklands Conflict between Great Britain and Argentina in April, May, and June of 1982 is of interest to the military professional for several reasons and from several aspects. It was arguably the first North-South war, a subject which has received much play in the Third World press, and conversely, very little in the Western press. It pitted two adversaries who, while differing substantially in their capabilities, possessed enough high-tech weaponry to give a glimpse into the changes and effects this weaponry is likely to have in future conflicts. Other than Inchon, it is the first large scale joint warfare amphibious assault since World War II. For these and many other reasons, the war should have elicited widespread and continuing interest in lessons to be learned. It didn't. Two curious phenomena developed around the war which negated this widespread, continued interest.

The first concerns what lessons could be learned. Shortly after the Falklands Conflict Sir Ian McGeoch, Editorial Director of Naval Forces magazine, commented,

It is tempting to pronounce already on both failures and success, particularly in regard to certain weapon systems and equipment used in action for the first time. But a mass of data has to be collected, analyzed and interpreted before any valid conclusions may be reached.
(1:7)

Sir Ian McGeoch's pronouncement of a mass of data to

be collected and analyzed was never realized. Inexplicably, the discussion of the war is almost totally limited to a short period following the conflict. The answer to the question of what lessons could be learned was cut short by the lack of continued data collection, analysis and interpretation.

The second area concerns why the lessons should be learned. In the May 24, 1982 issue of Aerospace Daily, then U.S. Chief of Naval Operations (CNO) Admiral Thomas B. Hayward was quoted concerning the U.S. Navy's examination of the Falklands Conflict. Adm Hayward, in announcing a U.S. Navy study of the war said that it would probably be "...[a] reaffirmation of things we already know..." Adm Hayward also said the study, centering on shipboard close-in air defense and electronic systems, would be conducted because it would be "...an intelligent thing to do..." These statements are rather startling in that the conflict still raged in the Falklands, with much information to be collected, analyzed and interpreted. The answer to the question why the lessons were to be learned seems to have been preempted by the CNO's characterization of those lessons as lessons already known. (2:124)

The analysis of lessons learned in modern wars has become a rather tenuous proposition. Care must be taken to ascertain the individual analyst's professional perspective, as this may affect his entering arguments, choice of data

analyzed, and lastly, his conclusions. So, for one reason or another, little information or analysis has been forthcoming since the immediate post-Falklands Conflict time period. This paper does not consider the political or historical contexts which led to the conflict, other than as they relate to the immediate conflict itself and the lessons learned. Nor is it within the scope of this paper to venture into the moral questions, the 'who was right and who was wrong' aspects, except as they relate to the political imperatives during the actual battle.

Finally, the viewpoint taken is from an American perspective: how the lessons learned reflect upon the United States, U.S. forces, and U.S. interests. For if Clausewitz' dictum that "War is a continuation of politics by other means" is followed, then the political viewpoint of an observer must determine the reference of that view.

CHAPTER II

SYNOPSIS OF THE CONFLICT

The hostilities in the Falkland Islands began on April 2, 1982, when an Argentine invasion force of 2,500 men came ashore. The landing force was backed by Argentina's aircraft carrier, the Venticinco de Mayo, three missile destroyers and a small fleet of other types. Opposing this invasion force was a Royal Marine contingent numbering less than a hundred men in the Falklands and South Georgia (a dependency of the Falklands). (3:42)

The British reaction was swift and forceful. On April 5, a mere three days after the invasion, the first large segment of the British task force sailed from Portsmouth Harbor with the light carriers Hermes and Invincible, and 28 other ships. (4:27-28)

Troop deployments to Falklands began on 6 April with the departure of the landing assault ship HMS Fearless carrying approximately 600 Royal Marines. On the 9th, the Canberra, converted from civilian use, sailed with 2,000 combat troops. Three days later the Queen Elizabeth II, also converted from civilian use, embarked with another 3,000 troops. Together their complements comprised a strike force of 5,000 amphibious assault troops that would land at San Carlos Bay. (4:21,25)

Around the 16th of April the task force delayed at

Ascension Island for regrouping and adjusting of men and materiel in preparation for combat. Vital to this endeavor was the conduct of practice amphibious landings. (4:21)

On the 25th, a small contingent of the Royal Marine Special Boat Squadron recaptured South Georgia. An Argentine submarine, the Santa Fe, was damaged in the fighting and beached by her crew. Audacious action by the marines resulted in the capture of approximately 200 Argentinians, including the Santa Fe's 90-man crew, with minimal bloodshed. (4:21)

The sea war became deadly serious on May 3, 1982, when the Argentine cruiser General Belgrano was sunk with the loss of 368 members of the crew. The Belgrano was attacked with two W.W. II Mark 8 torpedoes by the Royal Navy nuclear attack submarine HMS Conqueror. (5:83-84)

The following day, HMS Sheffield was struck by an AM-39 Exocet missile. The missile was fired from a flight of ground-based Argentine Navy Super Etendards. The resulting fire could not be contained and the Type-42 destroyer sank with the loss of 20 lives. (4:22)

On April 7th, Britain declared the area for 200 miles around the Falklands a "war zone." Credibility to this declaration was provided by four British nuclear powered attack submarines reported in the vicinity of the Falklands. The war zone was later redesignated a "total exclusion zone" on 30 April. This exclusion applied to any ship

or aircraft supporting Argentine forces in the Falklands. It was later extended to within twelve miles of the Argentine mainland on the 7th of May. During the conflict sea lines of communication were severed by numerous British air and sea attacks upon Argentine ships. While the Argentine air lines of communication were never completely cutoff, British air interdiction denied all Argentine aerial resupply of any consequence. (4:20-22)

The bombardment of Port Stanley and Goose Green airfields commenced on April 30th, with Sea Harriers from both carriers and a Vulcan from Ascension Island participating, along with several warships of the British Fleet. This bombardment continued virtually unabated until the termination of hostilities. (4:22)

On 8 May, an additional 20 Harrier and Sea Harrier aircraft were flown to Ascension with vital air-refueling enroute. Deployed to the Falklands, these aircraft were to prove invaluable in the campaign. Most of them were ferried aboard the Atlantic Conveyor, but were not on the ship when it was sunk on the 25th. (4:22)

On 14 May, British forces conduct a daring commando raid on Pebble Island, with both SAS and SBS troops engaged; several aircraft, an ammunition dump, and a radar station were destroyed. This was only the most spectacular of the numerous special forces actions conducted by these units throughout the campaign. (4:25)

British amphibious landings commenced at San Carlos Bay on the 21st of May, with over 1,000 troops ashore on the first day. Heavy air attacks on the landing force resulted in 17 Argentine aircraft and 2 helicopters being destroyed, the heaviest day's air casualties of the war. The next day the beachhead was expanded, with about 5,000 troops ashore. But the cost was heavy, as two British frigates, HMS Ardent and HMS Antelope were lost as a result of the air attacks. (4:25)

The 25th of May, Argentina's national day, was marked by intense air attacks on the British Fleet. Britain paid dearly, with the loss of HMS Coventry, a Type-42 destroyer, damage to the frigate Broadsword, and the loss of the container ship Atlantic Conveyor (hit by an AM-39 Exocet). (4:25)

Goose Green and Port Darwin fell on 27 May to the 650 paratroopers of 2 Para, who captured 1400 Argentines in the process. Unfortunately, 2 Para's gallant commander, Lt Col Herbert Jones was among the paratroopers killed in the fighting. (4:26)

On the 1st of June British troops took Mount Kent on the heights dominating Port Stanley. Five days later another 3,000 British troops landed, bringing the total British ground combat strength in the islands to around 8,000. (4:26)

The last large Argentine air attack of the war oc-

curring on 8 June with the loss of eleven aircraft. But British losses were also great, with heavy damage to the frigate HMS Plymouth and the landing ship Sir Tristram, and the loss of the landing ship Sir Galahad, with heavy casualties suffered (the heaviest day's casualties of the war for the British forces). (4:28)

By the 11th of June British forces were within 10 miles of Port Stanley, and the next day executed a surprise attack on the outskirts of the town which finished the Argentinian forces for all practical purposes. On the 13th, HMS Glamorgan was struck and damaged by an MM-38 land-based Exocet, with 11 crewmembers killed. The next day, 14 June 1982, the Argentine commander surrendered all Argentine forces in the Falklands, and the conflict was over. (4:28)

CHAPTER II

CHRONOLOGY OF THE CONFLICT

<u>Day</u>	<u>Date</u>	<u>Event</u>
1	2 Apr	Argentine Forces invade the Falkland Islands
2	3 Apr	UN Resolution calling for cessation of hostilities and withdrawal of Argentine Forces from the Falklands.
4/5	5/6 Apr	Main elements of the British Task Force sail from the UK. RAF deploys ASW Nimrods to Ascension Island.
6	7 Apr	Britain declares a Maritime Exclusion Zone - 200 NM radius around Falklands. Argentines reinforce the Falklands. British Task Force sails to the South Atlantic.
30	1 May	RAF Vulcans bomb Port Stanley airfield.
31	2 May	HMS Conqueror (SSN) sinks the Argentinian Cruiser Belgrano.
33	4 May	HMS Sheffield is sunk by air-launched Exocet.
43	15 May	British SAS forces raid Pebble Island.
50	21 May	British 3 Brigade lands at San Carlos Bay.
54	25 May	HMS Coventry sunk by Argentinian bombs, the MV Atlantic Conveyor is sunk by air-launched Exocet.
56	28 May	Goose Green and Darwin retaken by British Forces.
67	8 Jun	Elements of British 5 Brigade land at Bluff Cove. Argentine Forces sink the LSL Sir Galahad.

CHRONOLOGY OF THE CONFLICT (cont'd)

- 70 11 Jun Elements of British 3 Brigade take
Mounts Harriet and Longdon and the Two
Sisters.
- 72 13 Jun Elements of British 5 Brigade take
Mounts William and Tumbledown and Wire-
less Ridge.
- 73 14 Jun Argentines on the Falkland Islands sur-
render. (6:xii)

CHAPTER III

SPECIAL AREAS OF INTEREST

A. Command and Control

The British chain of command, though parts of it were ad hoc, worked quite well. It passed from the Cabinet to the Chief of the Defence Staff, Admiral Sir Terence Lewin, to the Chiefs of Staff, to the operational command located at Fleet Headquarters at Northwood. The Commander-in-Chief Fleet, Admiral Fieldhouse used an air deputy and a land deputy, thus creating a de facto joint headquarters. (7:12-13)

The operational success of this arrangement was best summed up by Air Vice-Marshal Stewart W. B. Menaul, RAF(Ret), when he stated,

The Falklands campaign was well planned and brilliantly executed when the odds seemed to be against a successful operation to repossess the islands. Firm decisions and determination at Britain's leadership level set the pattern for the successes that were to come. (7:91)

The British Cabinet maintained firm control over political aspects of the Falklands Conflict by the following means:

- Rules of Engagement were provided to the Royal Navy structured as a broad political framework, with commanders permitted substantial leeway of action under the rules.
- Action against the Argentine mainland was prohibited.
- Coordinated complimentary political and military pressure against the Argentine junta was initiated and maintained.

The effect of these initiatives was to direct and control

the intensity of the violence during the war. (7:12)

Clear lines of authority and rapid political decisions greatly aided in the execution of a complex operation. The extremely quick pace of that execution presented problems of its own. Group Captain Timothy Garden stated, "The political imperative to get the task force sailing in such a short time...meant that much of the detailed organisation depended on the support...from Ascension Island." (8:3)

B. Joint Operations

As the logistics of the task force began moving, with sealift providing the bulk, and airlift speed, the critical feature in the relationship was to ensure that an effective priority system determined the assets to be moved by airlift. Additionally, vital points in the logistics chain had to be planned for, from providing security to the prevention of log-jams. In the final analysis, shipping had accounted for the movement of 9,000 personnel and 100,000 tons of materiel, while airlift accounted for 5,800 personnel and 6,600 tons respectively. (8:3-4)

When the actual battle began, the duel of ships versus aircraft in the Falkland Sound provided an excellent view of combat in a joint battle scenario. It not only provided a first look in combat of shipboard surface-to-air missiles defending an amphibious task force against air attack, it provided other aspects to be anticipated in joint warfare. The position of the British ships close to land in

support of amphibious operations exacerbated their aircraft warning problems. As the British forces had no airborne early warning capability, striking Argentine aircraft were able to use extremely low-level tactics to lessen the effectiveness of British shipboard surface-to-air missiles by using the background terrain as ground clutter to mask their attack approaches. (9:32-33) As a result, British ship losses from Argentine air strikes were nearly so great as to force abandonment of the operation. As some observers have noted, it was a near-run thing. (10:36)

C. Weapon Systems

The importance of the MM-38 and AM-39 Exocet missile attacks warrants a good deal of study, both for what the missile did and did not do. The Super Etendard/AM-39 Exocet attack on HMS Sheffield eventually resulted in the ship's loss, but the missile did not sink the ship as it did not explode. The attack was a complete surprise, the product of lack of radar warning and extremely marginal weather. The ship's crew was not at battle stations and damage and fire fighting preparations were inadequate. Dense smoke and toxic fumes both ensued from modern shipbuilding materials. The consequence of all these factors was a fire that got out of control, and the Sheffield sank five days later in heavy seas. (9:34-35)

The Atlantic Conveyor was sunk by the Super Etendard/Exocet combination, again by the resultant fire, again

sinking after five days. A salient point is that the Exocet was diverted from a nearby aircraft carrier and from Atlantic Conveyor's escort, HMS Abuscade, by chaff decoys. The cargo ship had no ECM, however, and was struck. (9:35)

A final anti-ship missile attack occurred when an MM-38 Exocet was fired from an East Falkland mobile unit at HMS Glamorgan, but with much different results. The ship's radar detected the missile attack and the ship was turned into the missile, which glanced off the Glamorgan. The vessel suffered moderate damage and casualties when the missile warhead exploded outside the ship, but it did not sink. (9:36)

At least one outcome of the Exocet attacks in the Falklands Conflict is assured, that being the appetite for high-tech weaponry. As James D. Hessman, editor-in-chief of Sea Power put it, "...the nations of the Third World will be pushing...to buy the high-technology ships, aircraft, and, most important of all, missiles now viewed as the great equalizers between and among nations." (10:16)

Other than the Exocet missiles, which proved quite effective, the Argentines had no standoff weapons, nor did they have smart weapons. (9:33) But the Argentines did possess more than 200 combat aircraft, albeit with differing capabilities. (8:5)

This was a potent force, and could have been much more so. As Air Vice-Marshal Menaul stated,

With more reliable bombs, modern stand-off guided mis-

siles and electronic countermeasures they would have dealt out a great deal more damage to British ships and could have mounted more destructive attacks on the British ground forces, especially during the initial landing and buildup of the bridgehead. (8:87)

Much has been made of the durability and effectiveness of the Harriers, as well it should. The 28 Sea Harriers (22 embarked on HMS Hermes and HMS Invincible, 6 were augmented from Atlantic Conveyor before it was sunk) flew about 1200 sorties. With a 95% availability at the beginning of each day, and 99% of planned missions flown, the Sea Harriers established an amazing record. Another 125 sorties were flown by the 14 Harrier GR3s of the RAF in the reconnaissance and ground attack roles. Overall, the record of the multi-mission capable Harrier was remarkable. (12:19)

The extremely low level delivery tactics the Argentine pilots had to use to degrade British shipboard defenses provided marginal results with conventional iron bombs and rockets. As they did not employ retardation devices, many delayed action fuses malfunctioned and several weapons were released too low to arm. The result was that often weapons which were delivered on their targets did not explode. (9:33)

Flight Lieutenant Bertie Penfold, RAF, flying with No. 801 Squadron from HMS Hermes, presented another aspect of the Argentine tactics. Commenting on the air combat, he said,

...I locked a Sidewinder missile into his jet wake and, after three or four seconds, the missile hit. There was an enormous explosion...We have everything going on our side in terms of range, operating base and radar information. They are often 300 to 350 miles from home and, are therefore desperately short of fuel. They can't afford to mix it. (13:60)

But tactics and equipment alone do not constitute all, or perhaps even the most important parts, of the combat equation. The skill and determination Clausewitz referred to as the moral factor are often the crucial parts of battle. In the Falklands, this was the case; but though British skill and determination won the day, it was close. "The sheer courage of the [Argentine] aircrews rather than the effectiveness of their equipment accounted in large measure for the successes achieved by the Argentine Air Force and naval air arm." (5:87) John Laffin attributes the quality of their training in the following manner: "The skill of the Argentinian pilots was not surprising; many had been trained in Israel by the world's most experienced combat fliers." (12:95)

In the area of tactics in support of ground forces, naval gunfire was extensively used throughout the Falklands Campaign, with the direction frequently by artillery observers ashore. This obviously necessitated communications between ships and portable land radios. The heavy use of naval gunfire to support land forces was unexpected by some experts, at least to the widespread extent it was utilized. Like iron bombing, this was a proven method whose value was

revalidated. (7:12)

E. Special Operations

Prior to the landings at Port San Carlos, reconnaissance, mine removal and small-unit diversionary attacks were conducted by troops from the Special Air Service (SAS) and the Special Boat Service (SBS). (15:67) Representative of these was the attack on Pebble Island, conducted by 50 SAS commandos helicoptered to the island. Complete surprise was achieved, and this, coupled with commando directed 4.5 inch naval gunfire resulted in a completely successful assault. Eleven aircraft, an ammunition dump and a radar installation were destroyed with no losses to the attackers. The same type results were accomplished by British special operations groups throughout the Falklands, and in the recapture of South Georgia. (13:48-50)

Other special operations were conducted, of which we have only a glimpse. One of the most interesting has been alluded to by Jonathan Alford, Deputy Director of the International Institute for Strategic Studies. Mr. Alford has said that he believes that Special Boat Service units were inserted into Argentina to monitor aircraft movement. He has stated that he also believes relay of the intelligence was accomplished using

...very-high speed integrated circuits [sic] to transmit messages in bursts to the task force, thus substantially reducing the danger of intercept. That is one of the first times that this particular equipment has been used in anger. (7:13)

F. Media

The news media was granted extremely limited access on both sides of the Falklands Conflict. With the exception of 27 journalists allowed to sail with the British Fleet, no media representatives were permitted in the combat zone until after the cessation of the fighting. Even the 27 British newsmen were tightly controlled in both access to news, and transmitting facilities. In Argentina, newsmen were almost completely dependent upon official government releases, which were considered unreliable. (16:53)

Even though the news was restricted, and newsmen were tightly controlled, some controversy surfaced over the news that did get through. Lt Colonel Herbert Jones, commander of 2 Para, believed that the Argentinians had strengthened their defensive positions as a result of BBC and Ministry of Defence announcements that the paratroops intended to assault Goose Green. Prior to his death in battle at Goose Green, he told reporters with his unit that he would sue the BBC for manslaughter after the war. John Laffin stated,

It is a fact that defences were stronger after the BBC report than before it. There was widespread bitter feeling at San Carlos and Goose Green that not only the BBC, but politicians and newspapers were showing a reckless disregard for security. (14:110)

On the other side, media complaints varied: Jeff Gralnick, executive producer of ABC World News Tonight, stated, "It's the first major story in a decade in which the press has not had immediate contact...;" Van Gordon Sauter,

executive producer of CBS Evening News, said, "Viewers have become accustomed to not just instant but instantaneous coverage. And they, like our TV news people, are frustrated because it's just not available;" Ministry of Defence spokesman Ian McDonald stated, "Our reports are as true and complete as we can make them;" to which Jeffrey Simpson of the Toronto Globe and Mail countered, "He's [McDonald] precise and vague...He manages with great precision to say very little." (16:53)

G. U.S. Support

As the Falklands dispute unfolded the U.S. attempted to maintain a public neutrality between the belligerents. Despite America's long and deep friendship with Britain, and the American people's repugnance over the excesses of successive Argentine regimes, the Reagan Administration gamely maintained that it was friends with both sides. (17:4)

By the fifth day after the Argentine invasion of the Falklands, Britain was pressuring Washington for military intelligence and other support, and for intercession with the Argentine government. (18:10)

As predicted in The Economist of April 10, 1982, America could not keep out. For treaty and alliance reasons the U.S. had to come in; but even more important, America was compelled to assist Britain because a close friend and ally needed its help and because most Americans believed Britain was in the right. (19:11-12)

The U.S. tilt towards Britain during the conflict has had some very serious, long-term political consequences within Latin America. There is evidence that the U.S. underestimated both the extent and the depth of change in Latin America before, during and possibly after the war. Eduardo Crawley, an Argentine journalist for South magazine, stated, "The colonial issue cuts across political differences in this part of the Third World...Britain and the U.S. misread the impact of the conflict on Latin America." Witness the fact that countries as diverse as Brazil, Chile, Peru, Venezuela, Bolivia and Cuba offered various degrees of aid and/or support during the crises. Additionally, the fact that the Organization of American States approved a resolution supporting Argentina's claim to the Falklands/Malvinas, and that Venezuela has called for a new inter-American system without the U.S. as the dominant player support Crawley's contention that "...[the] implications...have much to do with a redefinition of North-South relations." (20:40-41)

Initial reaction in Britain towards America's reluctance, perceived or otherwise, in siding with Britain was exasperation. But that soon changed as a new focus of antagonism emerged. As correspondent Anthony LeJeune reported,

Such reservations [towards initially uneven American support] pale into insignificance beside the contempt felt in Britain for the haggling in the European Common Market, where very limited sanctions against Argentina were apparently being traded for Britain's agreement to higher farm prices. (21:897)

H. Major Weak Points of the Combatants

The lack of AEW had a disastrous synergistic effect upon the British fleet. It necessitated the use of picket ships outside of effective air coverage to protect the main body of the task force, thus leading to the loss of HMS Sheffield. As the Argentines were using mass attacks, it both enhanced the effect of mass with surprise (the Argentines masking of the attacks with terrain), and decreased the effectiveness of combined British defenses by shortening reaction time and optimum use of defensive systems. (27:32,36)

The fatal flaw in the Argentine air campaign was the fact that the attacking Argentine aircraft were not protected by electronic countermeasures (ECM). This factor, possibly more than any other turned the tide of battle, as attrition of aircraft exhausted the Argentine Air Force before attrition of ships could exhaust the British. (9:35)

These two areas, AEW for the British defenders, and ECM for the attacking Argentines need no analysis for any lessons learned: they are of the most basic nature. In a modern combat environment, to attack without defensive aircraft ECM or to defend without AEW is tantamount to suicide. The conclusion to be drawn in these areas is self-evident.

CHAPTER IV

LESSONS LEARNED AND CONCLUSIONS

The lessons learned in the Falklands Conflict, as in any other war, must be carefully studied in the context of that war, in that time and place, before an effort is made to apply them elsewhere.

A major omission in attempting to distill lessons learned from the Falklands Conflict is the lack of information from one of the belligerents. No operational history and very few examples of lessons learned has emanated from Argentinian operations personnel or defense experts. What little data is available is of dubious quality, and because of the limited amount, allows for virtually no comparative analysis. This obviously leaves a wide gap in the study of the war, and in the conclusions drawn.

Particularly troublesome in assessing lessons learned in any war, are lapses in both facts and rationale by otherwise distinguished writers. For example, British historian Alistair Horne, writing in the National Review, said,

...one naval power...that has little comfort to derive from the Falklands...[is] the Soviet Union. With no aircraft carriers and a vast investment in surface craft, her navy now looks peculiarly vulnerable to sophisticated Western missiles like the Exocet. (22:888)

As Mr. Horne's rationale was based upon his premise that the Soviet Union possessed no carriers, his lack of knowledge of the Kiev-class carriers (Kiev and Minsk) which

which were operational in 1982 negates his argument. This is by no means an isolated instance the author found in re-searching lessons learned; it is merely provided as an example.

At times an old but valid lesson of war may be disregarded, with the combat results leading to a relearning of the lesson. An even riskier proposition stems from the multitude of variable factors and the great effect chance has in the determination of the outcome of battle; these can camouflage the weight of events and skew the conclusions. All of these were to be found to varying degrees in the Falklands Conflict. (9:32)

The first major lesson to be learned (or in this case relearned) concerns command and control. The most basic requirement is for clear lines of authority and a well defined chain of command. This requirement was accomplished exceedingly well by Britain in the case of the Falklands Conflict. Political decisions must be rapid and consistent. Political guidelines and rules of engagement must be laid down in order to provide the framework within which senior military commanders can implement national policy correctly. Authority commensurate with responsibility must be delegated for military commanders to be fully effective. And finally, political decisions cannot be substituted for military judgment. Though these things are all elemental, they are often violated or forgotten. Britain's command and control struc-

ture acquitted itself admirably during the Falklands Conflict providing an example for future wars of this nature.

Britain assembled a formidable joint task force in an incredibly short time period. At its peak, this force included 26 warships, 15 fleet auxiliaries, 42 merchant ships, 52 airplanes and 136 helicopters. These statistics only include assets actually in the Falklands; the total is even higher if Ascension Island assets are included. (5:91)

The joint services planning for the Falklands Campaign was excellent, especially in light of the fact that it was ad hoc. To take a force structure designed for NATO operations, initiate and support a logistics line 8,000 miles long, assault and retake a sizeable land area in severe weather conditions, all within 74 days of the initial Argentine invasion was a very impressive feat of arms. (22:287) Because of the complexity and often risky nature of joint operations, it is requisite for any nation which contemplates executing this type of operation to build a joint planning staff and use it in practice exercises as often as possible. As von Clausewitz stated, "Peacetime maneuvers are a feeble substitute for the real thing; but they can give an army an advantage over others whose training is confined to routine mechanical drill." (23:122)

The Falklands Conflict used a broad spectrum of joint warfare tactics, techniques and procedures, and was a justification of the doctrine and training of this art.

The capstone of this endeavor was the amphibious landing at San Carlos Bay. As Rear Admiral E. F. Gueritz said, "The organization needed to achieve this is an unsung saga of staff-work based upon many years of experience." (24:47,52)

The Falklands Campaign proved once again that amphibious operations remain extremely vulnerable to air attack. The disastrous attack on the landing ships Sir Tristram and Sir Galahad, with heavy casualties and the sinking of Sir Galahad the result, is a case in point. Conversely, a relative lull of 36 hours in air attacks during the Port San Carlos landings was an extreme stroke of luck for the British forces. It allowed the landing force to complete the landings without the devastation suffered by the two landing ships at Bluff Cove. But a fortunate conclusion to an amphibious operation does not negate the essentially hazardous nature of the undertaking. Had the Argentines had better equipment (such as ECM and smart weapons) and better tactics the battle could possibly have swung the other way. (9:36)

On the plus side, the speed with which the British forces got off the beaches demonstrated that the lessons of past amphibious disasters (Gallipoli, Salerno, Anzio, etc.) had been learned well. (22:887) The lesson is that air superiority remains the single most vital prerequisite to modern amphibious operations and without it these operations are hazardous in the extreme.

Dependence upon the logistics lifeline by a fleet in

the power projection role was underscored again in this conflict. As Admiral Thomas Moorer and Dr. Alvin Cottrell stated, "The stark lesson of the Falklands experience has been to underline the importance of forward bases and facilities in the proximate location to the arena of conflict." That forward base in the case of the Falklands Conflict was Ascension Island, with the critical facility being Wideawake Airfield. In the estimation of Adm Moorer and Dr. Cottrell, "Had it not been for Ascension Island, the entire operation would have been doubtful..." (25:25)

A key factor in the logistics operation, and in fact the whole joint operation, was the success of ships taken from trade (STUFT): over 50 ships with a total of 673,000 gross tons. In all, they carried 100,000 tons of cargo, 9,000 personnel, and 95 aircraft to the combat zone. (19:39) Capable shipping obviously is crucial to the effectiveness of the logistics support in this type of joint operation; and the more capable the shipping (modern, high-speed, roll-on roll-off, etc.) the more effective the logistics support.

An additional logistics consideration needs to be mentioned. With the loss of Atlantic Conveyor a key lesson was relearned: do not put all of one kind of equipment on a single ship. A large percentage of the tents and helicopters were lost with the sinking of Atlantic Conveyor. (24:47)

Another major lesson to be learned concerns the use

of aircraft carriers. The debate centers on the size of the carriers, and the viability of the carrier itself in modern warfare. As the nucleus of both naval power projection and amphibious assaults, the subject is vital to navies and nations. John Gellner, editor of Canadian Defense Quarterly, citing critics of seapower, stated,

There has been a widespread belief that surface ships will no longer have a strong role once shooting starts. They retain an important role in projecting power short of war, threatening vital sea routes as a means of political coercion. (26:38)

This position downgrades and drastically alters the importance of surface combatants, especially carriers as their key element, in the sea control, sea denial and amphibious missions in wartime. They are relegated to showing the flag and threatening coercion in the power projection mission, leaving the major combat roles to submarines and long-range land-based aircraft.

This position simply is not true. If anything the role of the aircraft carrier has become stronger, particularly in the sea control and amphibious missions. Witness the statements of Mr. Ezio Bonsignore, military analyst for Military Technology magazine: "...it has become evident beyond any possible discussion that organic, shipborne airpower is the key to success in any major naval operation carried out outside the range of [your] own land-based aircraft and within range of enemy land-based aircraft." His assessment, a correct one, is that "...aircraft carriers (even if small,

even if V/STOL-capable only) must be the nucleus of any navy whose operational responsibility extends well outside [its own] territorial waters." (27:31)

As to the question of the optimal size of carriers, Mr. Alistair Horne suggested that in light of the Harrier's performance and the Exocet's damaging debut, big carriers may not be as cost effective as small carriers. Further, studying the case of HMS Sheffield, big carriers are more inflammable than destroyers or frigates. He also says that battleships, such as the USS New Jersey and the USS Iowa, are more invulnerable to Exocet attacks than large carriers. (22:887)

These are specious arguments. The Harriers performance was laudable under difficult circumstances, but is not anywhere near as effective as the complement of a Nimitz-class air wing. The U.S. Navy's doctrine of destroying missile platforms before missile launch is a more rational and effective approach than relying on even the heaviest armor. One of the two largest battleships ever built (the Musashi of the Imperial Japanese Navy) was sunk with iron bombs and torpedos. It may have taken a great number of them, but the point is the Musashi was sunk by submarines and carrier air despite extremely heavy armor. The large-deck carriers possess the ASW, interceptor and AEW assets to keep hostile missile carrying aircraft and submarines at bay in all but the most intense attacks. Besides, battleships cannot do the

job that a large-deck carrier can no matter how much armor a battleship may carry.

In assessing the role and capability of the large-deck carriers, Secretary of the Navy John Lehman said,

The large size...permits the operation of an airwing of four-dimensional capability. Action can be taken against air, land, surface and sub-surface adversaries. It can operate the entire range of tactical aircraft both conventional and V/STOL, with flexibility...and with sustainability...[to] stay there--and win.

Lastly, the large-deck carrier may carry more fuel than a destroyer or frigate, but that is not the same thing as being more flammable. The relative vulnerability of a U.S. Navy large-deck carrier to destruction by fire may be judged by the example of the 1969 explosions and fire aboard the USS Enterprise. Navy spokesmen have estimated the damage as equivalent to that inflicted by six Soviet SSN-3 cruise missiles. Firefighting and damage control were the keys to saving this ship, not the amount of flammable material on board. The Enterprise, in fact, could have been capable of launching aircraft within a few hours in this instance. (11:16)

In summation, the Falklands Conflict bears proof of the essential nature of naval power, particularly carrier air power, as vital in national power projection. But what of the role of the V/STOL aircraft and carriers? Mr. Ezio Bonsignore presented it this way: "...at least at the present stage of V/STOL technology...[they] cannot be seriously

heralded as a true and completely satisfactory alternative to conventional aircraft (and carriers)." (27:34) As security consultant Damian Housman succinctly states it, "...there is no substitute for a large-deck carrier for the force projection mission...the best and most cost effective means of accomplishing this mission is through the use of large-deck aircraft carriers." (26:896)

To project power beyond the immediate range of land-based aircraft, a nation must possess seapower, specifically carrier seapower. And that seapower must be commensurate with the nation's goals and responsibilities. Adm Moorer and Dr. Cottrell outline a direct linkage between naval power projection and U.S. global interests:

If the United States is unwilling to pay the cost of such a navy [15 carrier battle groups with increased air support and enhanced offensive capability] and seeks economy above performance, then it may one day face a crisis in supporting its interests similar to that which confronted Britain in the Falklands. A country whose military forces are not tailored to its commitments is flirting with decline and defeat. (25:27-28)

Though the limits of V/STOL were revealed (range, endurance, etc.) in the Falklands, within those limits the Harriers performed superbly. Noteworthy were the durability and reliability of this aircraft. Mr. Bonsignore states, "It has been confirmed that the V/STOL aircraft, through use of vectored thrust in flight (viffing) is a redoubtable dog-fighter..." (27:32,34) Viffing is a technology and a tactic that certainly warrants extensive investigation. This

is mandated by two things: first, viffing paid off handsomely for British Harrier pilots in the Falklands in the harsh world of combat; and second, history has proven that the direction the next successful military technology will take is impossible to predict. Conjecturally, viffing could well be that next technology.

Another important advantage the RN and RAF Harrier pilots possessed was the AIM-9L all-aspect missile. (27:32) As the redoubtable B/G Chuck Yeager states it,

...we finally realized that we didn't need blinding speed...[previously] the object of a dogfight was to try to get on the other guy's tail. But with the new air-to-air missile systems, we no longer need tail-end position...The guy who wins a dogfight today is the first to rotate, aim and shoot."

And that was the air-to-air story in the Falklands Conflict: the British Harrier pilots were better trained, with viffing the Harriers were more maneuverable than the Skyhawks and Mach 2 Mirages, and the Harrier carried the AIM-9L. As B/G Yeager might say, the Harrier guys were the first to rotate, aim and shoot--and they won. (29:321)

In conjunction with fighter defense, a comprehensive, integrated, close-in weapons system (CIWS) defense is mandatory for protection of a fleet. The majority of the Argentinian aircraft destroyed were brought down by surface-to-air missiles and automatic weapon fire. The fact that no Sea Wolf equipped ship was seriously damaged by Argentine aircraft despite numerous attacks attests to the effect-

iveness of just one of the modern CIWS defenses. (28:895)

ECM protection must be considered for all ships in future combat zones. The incident in which the Atlantic Conveyor was lost to an Exocet that had been diverted from other ships with ECM proves this. Yet an Exocet attack on 30 May 1982 was completely thwarted by a combination of chaff and jamming (from helicopters). (9:35-36)

The Falklands Conflict was a validation of the training and professionalism in a volunteer fighting force of professional soldiers as opposed to a conscript army of large numbers. The 5,000 British troops in the original landing force were outnumbered by almost three-to-one by the Argentine defenders, a reversal of the classic ratio of attackers to defenders. Yet the British forces prevailed with ease. The major flaw in the Argentine army was in the quality of the officer and NCO ranks: lack of experience, lack of training, and lack of leadership qualities. The conduct of British troops in the war speaks volumes for training and discipline in a military establishment. (11:19)

The employment of special forces in the Falklands was optimum. They were not used as shock troops, but were correctly used for intelligence gathering and reconnaissance, and for raiding to disorient the enemy. Mr. John Laffen attested to their effectiveness when he stated, "Virtually every objective was examined [by reconnaissance]...by the SAS and SBS before a major attack began." (14:123) Before

advancing from the beachhead at San Carlos Bay, about 40 SAS men in three groups conducted harassing attacks in the direction of Darwin and Goose Green. Their effectiveness may best be judged by the following account:

They were ordered not to engage the enemy at close quarters but to make as much noise as possible...It was later learned that the Argentinian commander at Goose Green reported that his position was under attack by an entire battalion. (14:99)

The fact that special forces were used in an almost perfect, textbook fashion contributed greatly to the successful prosecution of the Falklands Campaign by British forces. Additionally, casualties among SAS and SBS troops in actual combat were extremely low. Overall, the British use of special forces in the war was correct and extremely effective, providing a guide for the future use of special forces personnel.

One of the most interesting aspects of the war, and one with an impact most important in a democracy was the media coverage. British historian Alistair Horne surmised that the task force greatly benefitted by the stringent control of the news. He stated,

In marked contrast to Vietnam, there was no live television from the battlefield, and on the few occasions... when excessively realistic accounts of the agony of British wounded leaked through, the impact on morale at home was noticeable. (22:888)

A significant amount of controversy regarding media coverage was evidenced in the Falklands Conflict. Communications and movement problems were cited by various reporters

to varying degrees. Several complaints were voiced over the selection of which individual reporters would accompany specific operations. Other complaints were registered concerning the lack of technical facilities for communication back to Britain, both to file stories and to receive instructions. Charges and counter-charges flew as to who was responsible for breaches in security. (30:10)

In the welter of claims and counter-claims, it is easy to lose sight of the important areas. It appears that members of MoD at times handled situations poorly, while reporters were often unrealistic in their expectations and demands. The British government's stated objectives provide an excellent guide for media relations and goals during a war: timely, accurate information of the diplomatic and military events but with the overriding dictates the national and operational security and the protection of British lives. Considered essential to the British cause was 1) British public support and, 2) retention of support from friends and allies. In support of this latter goal, British diplomatic missions abroad mounted an intense public relations campaign to present the British position and counter the Argentinian position. (12:28)

With these things in mind concerning the media relations in the Falklands Conflict, the lessons to be learned center in the practical applications of the objectives stated by the British government. The pool system used there ap-

pears to be the best, accompanied by adequate censorship for security reasons. The objectives and ground rules must be stated at the outset, preferably prior to hostilities. Periodic practice of the procedures is necessary to iron out most of the difficulties. News agencies need be informed that where their reporters do not follow the objectives and ground rules, they will be removed from the scene. Lt Col Herbert Jones' outrage at what he believed to be unconscionable lapses in security serve as a haunting reminder that in combat, security is the overriding concern. Tragically, Lt Col Jones may have paid for one of those lapses with his life.

The last lesson learned/conclusion this author has come to concerning the Falklands Conflict concerns this war's relationship to other wars and the context in which it fits into the world of the late 20th Century. Air Vice-Marshal Stewart W. B. Menaul categorizes the war in the following manner:

The Falklands campaign was well-planned and brilliantly executed when the odds seemed to be against a successful operation....Nevertheless, a comparison with the weapons systems and tactics used by the Israelis in Lebanon suggests that in the Falklands Britain was fighting yesterday's war, while in Lebanon Israel was fighting tomorrow's. (5:91)

Air Vice-Marshal Menaul is correct in his laudatory comments about the conduct of the Falklands Campaign. But he is off-target in stating that Britain was fighting yesterday's war, for he has missed the point. Israel was in-

deed fighting tomorrow's war: restricted to its requirement to fight over the same known terrain with ever updated weaponry and equipment; with defined limits as to known adversaries, and with a premium on high quality intelligence of those adversaries; and with a force structure tailored to the battlefield and adversaries. Britain too was fighting tomorrow's war, but of a different kind, the come-as-you-are war: fought on relatively unknown terrain and climate; against a relatively unknown adversary, with a weak and unsatisfactory intelligence capability against that adversary; and with a force structure marginally matched to the specific arena and adversary. Both wars were limited, high-tech conflicts: the Israeli incursion into Lebanon was set-piece, the British campaign in the Falklands was adaptive. But both are blueprints for the limited, high-tech wars of the future.

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