
Falklands Conflict 1982 – The Air War: A New Appraisal

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INTRODUCTION

Britain's ability to retake the Falkland Islands in 1982 was centred on a series of strengths and capabilities. One such strength was its successful employment of air power. Outnumbered and thousands of miles from a British air base, Britain was able to support a vast Task Force of over 100 ships, provide air defence, anti-submarine operations, ground support, and a myriad of other duties in a war which many thought impossible. Without this great ability neither the Task Force nor the ground forces would have been successful in their ultimate aim.

But it was with aircraft that Argentina had its best chance of defeating British forces. Seemingly large, well trained and well equipped, the Argentine air forces posed the greatest threat to British success in the South Atlantic. Ultimately, it was whichever side handled and deployed their aerial assets best that would help create the conditions for their nation's overall victory in the conflict.

Yet readily noticeable by the military commanders on the warring sides was the fact that both nations' air forces were operating beyond their publicly and privately accepted capabilities.¹ The Argentine Air Force (Fuerza Aérea Argentina or FAA) had certainly not catered for over-water operations at ranges of over 400 miles. The Argentine Naval Air Arm's Comando Aviación Naval Argentina (CANA) power projection capabilities centred on modernising their only carrier and equipping it with new aircraft. Unfortunately, neither naval programme had been completed by the outbreak of war. Consequently, following its initial support role in the invasion of the Falkland Islands in April and its subsequent aborted strike against the RN Task Force at the start of May, the Argentine carrier spent

most of the war in harbour.² Thus the CANA were forced to operate from land bases and suffer the same penalties as their land-based cousins. To extend their limited range and eyes both Argentine air forces could rely on only two Hercules air-to-air tankers and remarkably few, but often ingeniously used, over-water reconnaissance aircraft.

Britain surprisingly found itself in a worse situation, as its largest air service, the RAF, was neither mentally nor physically prepared for the operations in the South Atlantic.³ The RN, which was to bear the brunt of the British air combat, was set to do so with its smallest number of operational aircraft carriers and carrier aircraft since the outbreak of the First World War. At the time of the conflict both of its two operational carriers, HMS *Hermes* and HMS *Invincible*, were cited for disposal as a result of the previous year's defence review.⁴ Even more worrying for the Task Force was that on board its carriers were initially just 20 new, untested-in-battle, low payload Sea Harriers. This was an aircraft in which many commentators – service personnel included – did not hold much faith.⁵

The Falklands Conflict, which is increasingly overlooked by air power students and writers, is not simply an interesting occurrence in Britain's post-colonial era, nor the aberration which some commentators would have us believe, but a vital paradigm in the use and misuse of air assets.⁶ We can primarily see this through the fact that neither side was judged at the time as being in possession of the correct equipment for successful prosecution of such a campaign as this. Moreover, the ranges within which both protagonists found themselves operating could well hold lessons for the modern world. Additionally, the deployment and use of a number of weapons systems that many thought either obsolete or unsuitable actually found very welcome homes amongst the warring nations. And finally, it should be remembered that it was the first occasion when air services from two Western forces would do battle since the Second World War, and do so in a multi-faceted battlespace.

The conflict is also notable for its employment of a large number of new and untried weapons systems, probably the most famous of which is the Sea Harrier. However, the naval 'jump jet' was only one such example. Both sides deployed a whole range of missiles, their use often resulting in devastating consequences, such as the employment of the Exocet for Argentina and Sea Skua and Sidewinder missiles for Britain. As usual, however, working hand in hand with the new technologies were a number of venerable systems, some operating in new and very testing conditions, whilst other platforms were noticeable by their very absence, such as AEW – an omission which was to have a very profound impact on operations.

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Air power alone could not have won the war for Britain, although it might well have done for Argentina. Nonetheless, without the successful employment of air power assets Britain could not have retaken the Falkland Islands. The only truly practical air assets for the British Task Force were those employed and carried by the Task Force, and there were never sufficient numbers of these to have retaken the islands solely through air denial and air bombardment. The land-based machines at Ascension Island, although useful, proved to be too transitory in operation to have any major significance (except in the area of transportation of valuable equipment into the forward operating base area of Ascension and occasionally by air drop to the Task Force).⁷ It was, in fact, the employment of the Task Force's air assets in four major areas that made the greatest contributions to victory from air power for Britain in the campaign. In the first place, the fleet was supported and defended throughout the conflict by the continual employment of air assets from the Task Force. Second, through the adoption of attritional tactics and the attempted denial of Argentina's use of the air and sea over and near the Falklands, the Sea Harriers provided bearable conditions for the fleet to prepare for invasion of East Falkland. Third, it was only through the support and defence of the amphibious operations in San Carlos waters against heavy Argentine air opposition – the Battle of San Carlos – that the land contingent could be placed ashore and maintained there. And finally, the continued air support, in many guises, was vital to the advance of British land forces across East Falkland until victory on 14 June.

However, none of this was guaranteed. The British Task Force that sailed on 5 April 1982 would be entering a war zone where the odds and the weather would be against them. In fact, Task Force personnel and commentators alike believed the air threat was going to be in the region of odds of at least 10–1 against the British.

THE AIR THREAT TO THE BRITISH TASK FORCE

Much has been written about the overwhelming preponderance of Argentine air power over the British Task Force. At the start of the campaign it seemed to the services and commentators involved that Argentina's air assets were fearsomely large. Yet in the 'true' light of battle their much vaunted strength now seems somewhat illusory.

Argentina's aircraft did indeed pose the greatest threat to British ambitions in the war. The numbers contained within the ranks of the Argentine air services dwarfed those in the Task Force, and the Argentine

pilots were just as accomplished and well motivated as their British counterparts. However, less well known to the British were the problems the South American nation faced with its air services. Initially, much of the knowledge of the air threat to the RN came from shipboard sources, secondhand information and weapons suppliers.⁸ Accurate intelligence was in fact woefully lacking in the Task Force, forcing the realisation amongst many that Britain's air strength faced a serious uphill struggle in all respects. At the outbreak of hostilities Argentina possessed the combat aircraft shown in Table 19.1,⁹ but as can be seen, far from all would be operational.

Aircraft at the start of the campaign ranged from being in active squadron service to undergoing long-term maintenance or being used as a source of spares for other machines. Besides availability issues, Argentina had other problems. The Daggers of the FAA, for instance, had been only recently delivered from Israel and pilots were still 'working up' on the air-craft, resulting in the Dagger's potential not being fully realised or understood.¹⁰ The same was true for the CANA with their Super Etendards and AM339s, both of which had been delivered only the year before. Impressive as the size of the force might be compared to Britain's seagoing combat strength, there were other important shortfalls. Argentina's true air defence capability rested with only a dozen or so Mirage 3 fighters. Aircraft that would be required not only to engage and defeat the Sea Harrier for air control but also defend Argentina's air space from possible British or

Table 19.1. Argentine combat aircraft during the war

<i>FAA aircraft</i>	<i>On charge</i>	<i>Operational (at start of war)</i>
<i>FAA combat strength</i>		
Mirage 3	15	12 (Grupo 8)
Dagger	37	25 (Grupo 6)
A-4B/C(P)	52	38 (Grupo 4 & 5)
Skyhawk		
Canberra	10	7-10 (Grupo 2)
Pucará	45	45? (Grupo 3)
<i>CANA aircraft</i>	<i>On charge</i>	<i>Operational (at start of war)</i>
<i>CANA combat strength</i>		
Super Etendard	5	4
A-4Q Skyhawk	10	8
AM339	10	10
S-2 Tracker	6	?
P-2 Neptune	3	2

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even Chilean incursions.¹¹ Thus the RN with its initial 20 Sea Harriers actually had more dedicated fighters in theatre than Argentina, and this was a position which would not alter for the duration of the war.

In fact, the bulk of Argentine air power was concerned with the delivery of ordnance, although there were limitations here as well.¹² One happened to be the inexperience of attacking ships by the FAA pilots. CANA pilots were obviously well versed in anti-shipping strikes but their land-based counterparts were not. To compensate for this an intensive crash course run by CANA personnel was given to AA pilots at the start of the campaign and ultimately proved to be very successful.¹³ Notwithstanding attack problems, range was perhaps the most important problem. Argentina's long-range bombing force consisted of some ten operational Canberras.¹⁴ The majority of their aircraft were short-range machines and during the campaign these would be operating at the limit of their endurance. The range of quite a few aircraft types, but not all, could be extended by AAR using a pair of Hercules tankers, but in the end just two tankers would be of limited use. Consequently, the bulk of the Argentine aircraft had very little time on station over the Falkland Islands. This would force Argentina's pilots into using some very unfortunate tactics.

In the battle for air superiority the Mirage 3 was forced by lack of fuel to engage the Sea Harriers at high altitude, an altitude where the Sea Harriers were simply not going to roam. Without large-scale air-to-air engagements between the two main air defence assets the Argentinians effectively gave an element of air control directly to the British at the start of the campaign, without even a shot being fired. In the anti-shipping role, Argentine pilots were obliged to attack the first ships they encountered. They had very little choice as loiter time and slow selection of targets was not an option, owing to British air defences and lack of fuel, forcing them to attack British warships rather than the more valuable amphibious ships and STUFT. There were deficiencies in other areas as well, most notably in maritime reconnaissance and AEW. However, the FAA and CANA adopted ingenious solutions to these problems such as using transports, propeller and jetliner, to shadow the Task Force.¹⁵

But one area where the Argentine air services proved more than capable was the air-bridge between the contested islands and the mainland. Argentina quickly exploited the use of aircraft for transport in the early days of occupation. In April alone military and civilian aircraft carried into Stanley more than 5,000 tons of cargo and almost 11,000 personnel. This air-bridge was maintained, albeit at a much lower intensity, until the surrender of the Argentine garrison on 14 June.¹⁶

If the mainland air forces were experiencing a number of problems, what of the Argentine air garrison on the Falklands? Here too, Argentina's numerical strength was not going to pay dividends. The climate and conditions in the Falklands did not suit many of the aircraft and their serviceability began to suffer as the campaign drew on. Argentine aircraft were not used to operating in these conditions nor in fact from their southernmost bases for extended periods during winter months. They were normally based further north in milder conditions. Perhaps of more danger to the garrison's aircraft was British offensive activity, which took its toll on many of the aircraft. Special forces raids, such as the attack against Argentine aircraft at Pebble Island on the night of 14 May, naval gunfire against Goose Green and Stanley, and British air attacks on the capital's airfield all combined to reduce severely the number of available Argentine machines. Additionally, a number of garrison machines fell victim to air-to-air engagements, accidents, British surface-to-air missiles and Argentine friendly ground fire.

On the whole Argentina's Falklands air garrison did not pose a significant threat, although it certainly had the potential. Stocks of air weaponry were large, the pilots' training was generally high and at times the weather perfect and yet very few missions were launched against the ships in San Carlos and the land forces. Any major attacks would have augmented the mainland assault and split British defences, increasing Argentine success and damaging further British efforts.¹⁷ The reasons for this must, for now, be left to speculation. On the other hand, the mobility afforded by a not insubstantial force of helicopters was put to good use in re-supply and general support, particularly towards the end of the campaign, with their remaining helicopters often flying in conditions for which neither their equipment nor training could have prepared them.

At the start of the occupation the Argentinians had considered basing more capable machines in the Falklands. However, following tests with a CANA Skyhawk at Stanley airfield, it was demonstrated that the existing runway was impractical and unsafe for heavily laden modern attack aircraft until adequately extended. This left the combat element of the Falklands garrison as 25 Pucarás of the FAA and ten AM339s and Mentors of the CANA (see Table 19.2).

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The British did not have the same worries concerning the length of their runways. The pitching, heaving and almost continual sea spray covering them seemed of more importance. The overwhelming bulk of Britain's air

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Table 19.2. Strength of the Argentine air garrison in the Falklands

Type	Service	Number
Pucará ¹⁸	FAA	25
AM339	CANA	6
Mentor	CANA	4
Chinook	Army	2
	FAA	2
Puma	Army	5
	Coastguard	1
Huey	Army	2
	FAA	2
A109	Army	3
Skyvan	CANA	1

missions were flown from the decks of the Task Force, and principally the two carriers, *Invincible* and *Hermes*. The conflict demonstrated the inherent characteristics of aircraft carriers and their vital role in supporting foreign policy beyond a nation's coastline. However, other flight decks would also be utilised on a variety of naval vessels, improvised merchantmen and also from a forward operating strip overlooking San Carlos, HMS *Sheathbill*, which was in operation towards the end of the campaign.

The centrepiece of the Task Force's defensive and offensive capability centred on the Sea Harrier. Harrier aviation was not new. Both the RAF and United States Marine Corps (USMC) had been successfully operating the Harrier for over a decade. What was new was the situation. No Harrier had ever gone to war before, certainly and not least gone to war on the back of ships, and certainly not in the role of fighter, ground attack and reconnaissance platform. Outnumbered, although perhaps not as greatly as many have believed, the Harrier was to be the key to retaking the Falklands. This novel British aircraft would lead the vanguard of Britain's air strength in the South Atlantic.

One of the major problems affecting the Sea Harrier, and all aspects of the British air war, was quantity. Only 20 examples would sail to begin with and, though they would be joined by further Sea Harriers during the campaign and an additional 14 Harrier GR3s of the RAF, lack of numbers continued to be a key aspect in the effort. Yet the RN Sea Harriers were to perform over 1,200 sorties and the RAF machines a further 150. Losses were remarkably few with only six Sea Harriers and four RAF Harriers being lost, of which two Sea Harriers and three

Harrier GR3s were victims of Argentine ground fire. The other machines were lost through accidents and weather-related incidents. None of the Harriers was lost in air-to-air engagements. Sea Harriers accounted for 23 enemy aircraft, 20 resulting from the use of Sidewinders. Contrary to popular belief, the majority of these were 'tailpipe' shots thus not exploiting the better engagement capabilities of the improved Sidewinders delivered from the Americans, and far superior to those of the Argentines or even existing British missiles.¹⁹

The Harriers also carried out anti-shipping strikes and combat air support (CAS). Initially the CAS role carried out by Sea Harriers but during the conflict the RAF Harrier GR3, specialised in ground attack, would replace the Sea Harriers in the 'mud-moving' capacity, freeing up valuable air defence aircraft for protection of the fleet. However, there were other problems. The lack of range of the Harriers would impact on transit and on-station times, as the British carrier group was forced to remain at a distance from potential air attack. This was made dramatically worse by the lack of a crucial element in any modern air war – AEW. This forced a higher number of Sea Harrier sorties for air defence of the fleet, gave less warning time and saw a number of ships hit by Argentinian aircraft which might otherwise have evaded damage.

Nonetheless, the Sea Harriers performed beyond the expectations of all bar those who really knew the aircraft, even in the area of availability. This was extremely high and amazingly only one sortie was cancelled through unavailability. This is all the more remarkable considering the conditions in which the aircraft were being operated and maintained. It can be seen that the combination of the Sea Harrier's presence and Argentina's own problems with providing air defence assets over the Falklands enabled the air umbrella to be much stronger than many expected.

However, the Sea Harrier and Harrier GR3s, although vital in the successful prosecution of the war, were only one part of the in-theatre aviation assets available to the Task Force. This can be seen from Table 19.3 where the Harriers formed part of a much bigger air fleet composed mostly of helicopters with over 150 from all services.

THE HELICOPTER AT WAR

The Navy deployed helicopters on all of their ships in the South Atlantic that possessed flight decks but perhaps more crucially they were also able to deploy from a large number of merchant ships that had been converted back in Britain as the Task Force mobilised. This enabled more helicopters to be carried in the fleet and provided a degree of redundancy, which was

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Table 19.3. Aircraft in the Task Force during the conflict²⁰

<i>Type</i>	<i>Service</i>	<i>Number</i>
Sea Harrier	RN	28
Harrier GR3	RAF	14
Sea King	RN	37 HAS2 & 5 14 HC4
Wessex	RN	54 HU5 2 HAS3
Lynx HAS2	RN	25?
Wasp HAS1	RN	10?
Gazelle AH1	RM	9 (3CBAS)
	AAC	6 (656 Sqn)
Scout AH1	RM	6 (3CBAS)
	AAC	6 (656 Sqn)
Chinook HC1	RAF	1 (18 Sqn)

especially true and important had an aircraft carrier been hit. Three ships in particular acted as auxiliary helicopter carriers and one, the *Atlantic Conveyor*, also acted as an aircraft transport by bringing Harriers into the theatre.²¹ The helicopters that flew from these vessels and their more normal platforms performed sterling service to the ships and men of the Task Force, and have often been overlooked since the war. Much has been written about the single RAF Chinook, 'Bravo November', and its use in the Falklands but much less concerning the helicopters of the RN, RM and Army Air Corps (AAC).

The Gazelles and Scouts of the Commando Brigade Air Squadron (CBAS) and 656 Squadron AAC provided crucial air transport, casualty evacuation, reconnaissance and limited fire support for the ground forces, without which the land forces would have sustained considerably higher losses and a war of longer duration. Their lift capacity, although minor compared to larger helicopters, still proved useful. Even the five-seat Scouts were regularly seen carrying seven passengers and two crew. Attempts at employing the Scouts and Gazelles as fire support platforms were, however, not hugely successful, although it did demonstrate what British forces might have achieved had the right equipment been available.²²

In the end, however, the majority of British helicopters in the Falklands theatre belonged to the RN, with a mixture of Sea Kings, Wessex, Lynx and Wasp. These would give the Task Force a continuous anti-submarine screen (mostly Sea King HAS2 and HAS5), anti-surface

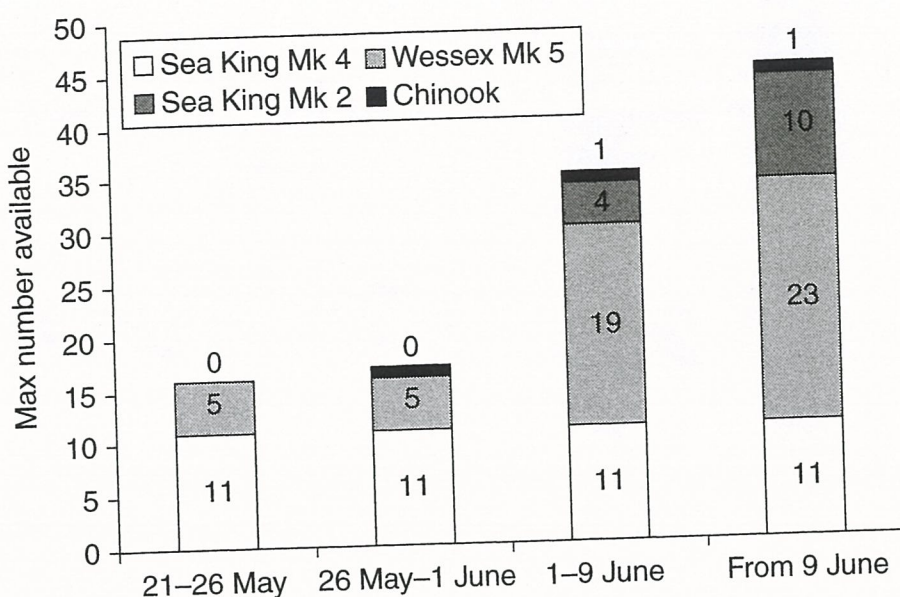


Figure 19.1. British transport helicopter availability.

capability (Lynx HAS2 and some Wasp HAS 1), and vital troop transport capacity. The Navy mobilised second-line units and converted a squadron of anti-submarine tasked Sea Kings into troop transports, whilst also employing all their available Wessex HU5s and Sea King Mk4s for troop and cargo transport (see Figure 19.1).²³ Although numbers were considerable, they were still not enough to give sufficient flexibility to planning or the movement of land forces that was really required or envisaged at the beginning of the campaign.²⁴

A serious blow to the war effort was the loss of the MV *Atlantic Conveyor*. When lost following an Argentine Exocet hit she was carrying six Wessex HU5, three Chinook HC1 and one Lynx HAS2 helicopters. The loss of the transport machines was a major blow to the campaign, creating a number of unwanted consequences onto the land operations, forcing the land commanders to amend their plans to take into account the fact that they would have even fewer helicopters than they thought.²⁵ Another interesting role for some of the Task Force helicopters was the provision of Lynx on board the carriers to provide Electronic Counter Measure (ECM), decoy and jamming platforms for the defence of *Hermes* and *Invincible* against Exocet attacks.

ASCENSION AND RAF SUPPORT

The other aerial assets the British were able to deploy in support of the Task Force and ground forces were, of course, those of the RAF on

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Wideawake airfield on Ascension Island. Their impact and roles were at times, like the dramatic Vulcan raids against in the Falklands, very newsworthy and high-profile but it was their lower-profile support services to the fleet and at Ascension Island that were of greater importance to the success in the war. In fact, the first ground crew and aircraft started arriving the day after the Argentine invasion. However, the same factor affected all their aircraft sorties into the operational theatre: their land-based aircraft were all transient machines. Although aircraft regularly spent 18 hours or more in the air for a single sortie, much of this was not 'on-station' time but time travelling to and from their mission zones. They were able to impact on the war only at very specific moments of the conflict owing to limitations of range and lack of air-to-air assets and at times were unable to do even this owing to a series of factors. Ultimately, their forward operating base at Ascension was some 4,000 miles away, making it a very distant forward base indeed.²⁶

Nonetheless, the RAF provided transport and tanker forces, maritime patrol and reconnaissance assets, long-range bombers and land-based Phantom fighters for protection of Ascension Island and the American airstrip at Wideawake airfield.²⁷ The distance to and from Ascension was one of their greatest handicaps, yet they were able to mount a number of drops to the fleet from Hercules aircraft, with Hercules sorties often lasting over 24 hours. More importantly they provided some extra maritime patrol assets via their Nimrod and Victor aircraft, with the Nimrods even being fitted with Sidewinder missiles for self-defence, giving them the not too serious title of being the world's largest fighters.²⁸ The Victors should be noted for their provision to the naval forces retaking South Georgia in Operation Paraquat of accurate and timely information concerning the island and Argentine dispositions.

All these aircraft required extensive AAR, placing extra pressure and duties on an already stretched asset, and a large number had to be fitted with probes for refuelling for the first time, notably the Nimrod and Hercules fleets. The tankers were constantly required to provide fuel to aerial traffic departing from and arriving at Wideawake from the start of the campaign to a considerable time after its completion. The air-bridge to the island had to be maintained and during the war saw from Britain some 535 sorties from the start to the finish of the hostilities bringing in over 6,000 tons of supplies, 5,500 passengers, nearly 100 vehicles and more than 20 helicopters onto Ascension.²⁹

From an offensive point of view the RAF Ascension-based force provided Vulcan bombers for long-range missions against Argentina's garrison in the Falklands. The Vulcan mission on 1 May – often cited as the start of the 'shooting war' – was the first of the 'Black Buck' Vulcan

missions and was to have been followed by six others during the campaign.³⁰ Of the seven planned only six took to the air, a mixture of free fall bombing and Shrike missile anti-radar missions directed against targets on the Falklands. They were hailed at the time as the longest bombing missions in history – now eclipsed by US B-2 missions – for their massive and very complicated refuelling effort and for their impact on the conduct of the war. First, by hitting Port Stanley runway they put the facility out of action for fast jet operations. Second, the ability to target and hit Argentina's mainland was demonstrated, thus forcing the redeployment of a squadron of Mirage aircraft to defend Buenos Aires, denying them the chance to attack British air assets. In fact, neither impact was true.

Stanley runway was not put out of action and was in constant use until the last day of the conflict. More importantly Argentina had no intention of using fast combat aircraft from the runway following tests earlier in April, whilst the diversion of assets away from the air war consisted of just four Mirages for defence of the capital. In fact, of the seven Vulcan missions planned only one saw the target, a radar site, being hit successfully. The cost in terms of fuel, increased strain on air frames and one major diplomatic embarrassment, where a Vulcan landing at Rio de Janeiro from lack of fuel, cannot today be seen as a satisfactory return for the effort.

Although in the capacity of power projection the effort was somewhat unsuccessful, the RAF forces at Ascension were ultimately much more important and useful in the air transport and maritime reconnaissance roles. The RAF in the transport role was augmented by two other elements, with aircraft from the US transport force and civilian transporters also providing lift: the aircraft being mostly civilian Boeing 707s and Shorts Belfasts – the latter ironically former RAF machines.³¹

CONCLUSION

It was with a more efficient and flexible use of air power that the British were able to help retake the Falklands in 1982. It would be untrue to argue that they managed to deploy and use their best possible force package. However, they were able to send south a fleet with a very capable fighter, eventually augmented by 'mud-movers', supported by a vast array of helicopters and at times a number of useful land-based sorties. There were deficiencies and problems but in the harsh light of battle it became obvious that these were fewer than Argentina's.

What also became obvious during battle were the problems the RN, Britain and a number of other 'maritime' powers could face whilst they

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continued to embark upon a new downward spiral of naval funding and government interest. By 1982, with very few exceptions, naval aviation was dying out. In fact, the future of balanced capability navies was also very bleak. Specialisation seemed to offer the best prospect for existence, but in the Falklands War and those that followed it specialisation could prove a folly. Neither specialised navies nor armed forces reliant on a land-based air force could have retaken the Falklands. Both sides in the conflict in the South Atlantic were operating at extreme ranges, and it was demonstrated that the most flexible force and the force capable of coping best with the distances and the force conditions involved would win the war.

It has been called a war of anachronisms by some commentators but in many ways it was a war of the future. The Falklands campaign was a watershed in British (and global) naval air power development. In Britain the domination of a land-air European mentality – which had certainly gripped Britain since the 1960s – had been shown to be inappropriate for a nation with global interests. If Britain only willed and wished to show influence and military power inside the borders of Europe, then the policies and reviews of the previous decades were essentially correct. If, however, Britain wanted to play a more substantial and serious role as it began to do in the 1980s and into the 1990s, then modern, ocean-going maritime air power was going to have to be retained and developed. This point was, and is still true for many nations, and not just Britain.

At the heart of this analysis of the air war during this conflict in the South Atlantic is the recognition that air power alone could not have won the war, but that it remains as one of the vital components for victory. Certainly without the Sea Harriers of the Fleet Air Arm and the other airborne assets of the Task Force, Britain would never have been able to recover the Falklands. Consequently, in the post-war period a series of developments took place to rectify a number of problems seen in the South Atlantic. The three carriers of the *Invincible* class were retained. The Royal Navy's Sea Harrier FRS1 fleet was evolved into the FA2, becoming Europe's most potent single-seat fighter with the weapons and radar fit surpassing all others in NATO outside of the US inventory.³² The key albeit late creation was the acquisition of an all-important organic AEW platform with the Nimrod Searchwater radar being fitted into Sea Kings in the summer of 1982, a system that has been and continually updated since. And additionally, the RAF Harrier GR3's eventual successor was introduced along with the modernisation of Britain's transport and tanking fleet.³³

Perhaps more importantly Defence Policy began to shift, albeit slowly. Britain's success in the Falklands demonstrated a strong resolve

to the Soviet threat during the 1980s, in and out of Europe. And with the ending of the Cold War at the start of the 1990s Britain was able to start a real reassessment, moving away from what can be seen as the anachronistic and simultaneously 'aberrational' defence policy of the Cold War to a more traditional global maritime air posture. This shift was confirmed in the Strategic Defence Review (SDR) of 1997–8, which along with subsequent statements confirmed future carriers and aircraft to replace the *Invincibles* and Sea Harriers, thus demonstrating Britain's determination to wage war very much along the littoral lines of the Falklands conflict. As such the SDR and subsequent statements served to confirm the strength and relevance of the air lessons contained in the Falklands Conflict for operations in the twenty-first century.

NOTES

1. Both air forces were centred on regional air operations. Defence Statements in Britain's case saw the Soviet Union in Europe as the main threat and accordingly the bulk of aircraft catered for this scenario. See the various Statements on the Defence Estimates 1970 to 1981 (London: HMSO, 1970–81). Meanwhile Argentina saw its land neighbours as the main protagonists, particularly Chile.
2. The Argentine Navy was attempting to envelop Royal Naval ships in a pincer movement involving the *General Belgrano* from the south-west and the *Veinticinco de Mayo* from the north-west. Unfortunately, the carrier could not launch fully laden aircraft owing to her failing catapult.
3. Britain's strategic (if strategic can be seen in terms of range rather than effect here) airlift and attack capability had been run down since the mid-1970s. What was in effect Transport Command had been cut in half and Britain's Vulcan fleet was due for retirement. Their AAR probes had been removed prior to the war.
4. The Nott Review, *The Way Forward*, in 1981 had earmarked the *Invincible* and *Hermes* for sale. Australia had agreed to buy the *Invincible* and Chile and India were both showing interest in *Hermes*.
5. The real story of the Sea Harriers' capabilities was somewhat different. See Peter E. Davies and Anthony M. Thornborough, *The Harrier Story* (London: Arms and Armour, 1996), John Godden (ed.), *Harrier: Ski Jump to Victory* (Oxford: Brassey's, 1983) and Nigel Ward, *Sea Harrier over the Falklands* (London: Leo Cooper, 1992).
6. Strangely the Falklands air conflict no longer seems to appeal to authors and commentators. For instance S. Cox and P. Gray (eds), *Air Power History: Turing Points from Kitty Hawk to Kosovo* (London: Frank Cass, 2002) fail to mention the Falklands War once, whereas the Gulf War of 1991 is treated to three complete chapters. Tony Mason in his chapter 'The Air Warfare Requirement', in Philip Jarrett, (ed.), *The Modern War Machine: Military Aviation since 1945* (London: Putnam, 2000) dismisses the air war in less than a paragraph, avoids mentioning naval aircraft and

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then defines the war as 'an anachronism'. These omissions and sentiments are far from uncommon.

7. Ascension is almost 4,000 miles a way from the Falklands. More importantly, the RAF was orientated against European land threats, the Soviet armies and air forces, operations that required less range capability. Chile and South Africa could also have provided basing for British aircraft but both were politically and strategically unacceptable to the British Government at the time.
8. Initial information was very poor. If the ships and pilots of the Task Force were relying on Jane's publications then they soon realised that late 1970s, early 1980s editions would give them far from the true picture of the enemy threat. *Jane's Aircraft of the World* carried detailed information only about 'current' aircraft, and its air strength information in early years had been out of date, whilst *All the World's Fighting Ships* gave figures for CANA aircraft delivered but not necessarily in service. The International Institute for Strategic Studies' *Military Balance* for 1981-2 was the most accurate of the published and easily available sources but none would be present in the Task Force.
9. Compiled from various American, Argentine, British and Spanish published sources.
10. A Dagger was an Israeli Mirage 5. Not all on order had been delivered. Additionally there were problems with working up and supplies. See Mafe Huertas, S., *Dassault Mirage III/V* (Osprey: London, 1990), pp. 140-63, and Salvador Mafe Huertas, 'Mirage and Dagger in the Falklands', in *Wings of Fame*, vol. 6, (London: Aerospace Publishing, 1997), pp. 4-27.
11. Even after the first British Vulcan raid on Port Stanley the FAA held back only four Mirage 3s for the air defence of Buenos Aires and surrounding area, but it would have taken a brave British politician to order the bombing of mainland Argentina, thus escalating the war.
12. The aerial power to carry out counter-insurgency operations against communist guerrillas and possible border disputes had established the FAA as a regional power projection force.
13. For ships lost and claims on victories see M. Middlebrook, *Battle for the Malvinas: The Argentine Forces in the Falklands War* (London: Penguin, 1990) and S. Mafe Huertas and D. Donald, 'A-4 Skyhawks in the Falklands', in *Wings of Fame*, vol. 12 (London: Aerospace Publishing, 1998), pp. 4-29.
14. It had been intended that FAA Canberras were to carry out the first Argentine airstrikes against the British. They actually did carry out the FAA's last airstrike. Ironically, prior to 1982 Argentina had shown interest in acquiring a dozen surplus Vulcan bombers from Britain. See J.C. Cicalesì *et al.*, 'Canberras of the Fuerza Aérea Argentina', in *Wings of Fame*, vol. 17 (London: Aerospace Publishing, 1999), pp. 136-47.
15. The FAA became rather adept at using civilian aircraft for reconnaissance; most notably Boeing 707s, Lockheed Electras, HS125s and Learjets.
16. Although there are differences in sources, these are minor and the total transported is seemingly impressive. For instance, by the end of April FAA C-130s and Fokker Fellowships, plus civil aircraft, had transported some 5,000 tonnes of cargo and over 9,000 personnel to the Falklands, while CANA Fellowships and Lockheed Electras brought a further 500 tonnes and another 1,500 personnel.

17. Amazingly, only one MB339 mission was launched against the ships – of one aircraft – and only a handful of Pucará missions were launched on to San Carlos against which the British logistical base certainly found itself ill-defended.
18. Not all the Pucarás were there at any one time, but in total 25 were deployed to the islands.
19. Peter E. Davies and Anthony M. Thornborough, *The Harrier Story* (Annapolis, Md.: US Naval Institute Press, 1996), pp. 91–2.
20. Amazingly even official sources differ on the number of aircraft in theatre. Table 19.3 refers to the total number of aircraft and helicopters deployed to the Falklands and does, represent the air capability at any one time.
21. Merchant ships MV *Astronomer*, MV *Atlantic Causeway* and MV *Atlantic Conveyor* were all converted to act as ‘auxiliary’ carriers. The *Astronomer* would be retained post-war to become RFA *Reliant*, employing the American containerised Arapaho helicopter handling system.
22. Scout helicopters were fitted to carry the AS12 missile whilst Gazelles had undergone SNEB rocket tests.
23. Julian Thompson, *The Lifeblood of War: Logistics in Armed Combat*, (London: Brassey's, 1991), pp. 373–74 n.21, and information from Major-General Thompson supplied via Mark Grove, who provided data for Figure 19.1. An idea of the requirements involved can be gauged from the fact that to lift a battery of six 105 mm light guns with 480 rounds of ammunition per gun, two half-ton vehicles and crews, took 82 Sea King sorties. Thompson, p. 373.
24. The land force was initially planned to fly to the enemy and battle, and of course be supported by air. This plan had to be altered to include ‘yomping’ and increased use of coastal shipping movements. That said, the helicopter fleets worked slavishly, the Sea King in particular. The Navy Sea Kings represented only a quarter the air assets in theatre, yet they accounted for half of the Royal Navy’s flying time, with over some 12,000 hours out of a total of nearly 24,000 hours. Additionally, serviceability of these machines was consistently over 90 per cent in spite of the atrocious weather.
25. This is discussed elsewhere in the book, but it underlines the point that insufficient transport helicopters were provided to the Task Force. Only one frontline Chinook squadron was operational in Britain at the time of the Falklands. However, there were other assets such as RAF Puma, Wessex and Sea King SAR helicopters available back in Britain. Strangely, it was decided that British Pumas would find the weather conditions unsuitable. Argentina, however, deployed Pumas.
26. The war is often seen as one of great invention and innovation, such as in the area of flight refuelling, and the huge effort to fit probes. Yet some of this was actually refitting, whilst Argentina showed what could be done since some of their C-130s were already flight refuelling capable. The one area where the greatest impact could have been felt was in the area of AEW, but the ageing AEW2 Shackletons (younger than the V bombers) were felt to be too expensive and troublesome to be converted. This was a major failing in Britain’s war effort.
27. One RAF Sea King HAR3 was also at Wideawake for SAR and transport duties.
28. Almost 150 Nimrod sorties were carried out with a total flying time of some 1,500 hours.

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29. See J.D.R. Rawlings, *The History of the Royal Air Force* (London: Aerospace Publishing, 1984), pp. 306–7; and *AP3000: British Air Power Doctrine*, 3rd edn (London: HMSO, 1999), p. 2.10.9.
30. Of course, the shooting war had already begun in April when the Argentine submarine, *Sante Fe*, had been disabled by RN helicopters in Grytviken harbour during the retaking of South Georgia. Other potential ‘shooting war’ incidents were a nearly aborted Argentine Canberra bomber mission to South Georgia as it fell to British forces in April, and the launching of aircraft from the *Veinticinco de Mayo* against the Task Force prior to the *Belgrano* being sunk.
31. ‘Civil air carriers supplemented the efforts of the RAF Air Transport Force and between April and June transported more than 350 tons of freight, including helicopters, to Ascension Island’, *Lessons of the Falklands* (London: HMSO, September 1982).
32. Which it will remain until withdrawn from service in 2006 awaiting a replacement until 2012 and the JSF, leaving an air defence gap for naval operations.
33. The Harrier II from McDonnell Douglas and British Aerospace entered service with the RAF as the Harrier GR5, and has since been upgraded to the GR7 version and is currently undergoing a programme to see itself upgraded and last until 2015 as the Harrier GR9 and GR9A variants.