

FACTORS INFLUENCING THE DEFEAT OF ARGENTINE AIR POWER IN THE FALKLANDS WAR

BY OFFICER CADET COLIN CLANSEY, CD



A column of No. 45 Royal Marine Commandos march toward Port Stanley. Royal Marine Peter Robinson, carrying the Union Jack flag on his backpack as identification, brings up the rear. © Crown copyright. Imperial War Museum (IWM) www.iwm.org.uk/sites/default/files/public-document/IWM_NonCommercial_Licence_1.pdf

The Argentine defeat in the Falkland Islands War was due in part to the overwhelming superiority of the Royal Navy (RN).¹ Most of the action, however, involved the air powers of the Royal Air Force (RAF), the Fleet Air Arm of the RN, the *Fuerza Aérea Argentina (FAA)* or Argentine Air Force, and the *Comando de Aviación Naval Argentina (CANA)* or Argentine Naval Air Command.² This paper will analyse the strategy and tactics of the Argentine air forces as the most effective arm of the Argentine military junta. It will argue that the Argentine airmen displayed great skill, courage, and tenacity in their missions but that ultimately their defeat was due to the absence of rational leadership on the part of the junta, the presence of Chile as a strategic distraction, covert air intelligence given to Britain from other nations, and inferior technology.

The Argentine grand strategy envisioned by Lieutenant-General Galtieri, President and Commander-in-Chief of the Argentine Armed Forces, was to unite his people and provide a diversionary focus from the post-Perón revolutions that had essentially torn his country's economic and social fabric asunder.³ The invasion of the Falklands was intended to give his people something to rally around and thus bolster national pride;⁴ it was initially a political tool, aimed at motivating the negotiation of the sovereignty of the Islands.⁵ There was no official intent for a large-scale military confrontation with the British. Indeed, the Argentine troops were originally slated to return to the mainland after the invasion, leaving only a small garrison behind.⁶

In a sense, Galtieri's initial success was his downfall. On 2 April 1982, he ordered the invasion of the Islands. Five hundred Argentine troops successfully captured Port Stanley from its guard of 69 Royal Marines, and for the next 10 weeks it became *Puerto Argentino*.⁷ The resulting euphoria in mainland Argentina summarily convinced Galtieri that there would be no turning back, and he altered his military strategy from one of

takeover, leave, and negotiate to one of defend the islands at all costs. The invasion precipitated a furious British response in the form of a large-scale military mobilization to retake the Islands. Forced now to adopt a defensive posture, Galtieri unilaterally ordered the airlift of the entire 10th Mechanised Brigade and the 3rd Brigade (a total well over 10,000 troops) to the Islands for their defence, a drastic increase from the initial 500 used for the invasion.⁸ That he took this decision without consulting his own senior staff shows an overconfidence that belied a strategic ineptitude.⁹ Not only was planning a ground defence an error (Argentine troops were not as well trained or experienced as the Royal Marines and the British Army), but the allocation of resources necessary to support the troop airlift constrained his strategic options.

With the British response in the form of the formidable Task Force 317 only a few weeks away,¹⁰ Galtieri would have been better off using his time and airlift resources to move equipment to the Islands to construct a longer runway. The only hard runway available in the Falklands lay at Port Stanley, and although it could accommodate military turboprops and transports, it was too small for larger civilian or military jets and strike aircraft.¹¹ Strategic analysts in both the United States (US) and Britain viewed the lengthening of the runway as the most obvious first move, as it would have enabled Galtieri to forward-deploy his more advanced fighter aircraft, such as the Skyhawks and Daggers.¹² However, his airlift capability was limited: he had at his disposal only seven C-130 Hercules and a few Fokker F-27 transports, along with some impressed national airline aircraft capable of landing on short runways.¹³ In using all of his transport capability to lift troops to the Islands, not only did he forego any opportunity to improve the runway, he also limited his ability to lift artillery or vehicles to support the troops he deployed.¹⁴ The mismanagement of his limited strategic airlift capability thus caused the defence of the Islands to be lacking

in mobility, tactical firepower, and, with the exception of a small improvised airfield on Pebble Island,¹⁵ close air support.

Another error in Galtieri's strategy was his assumption that the US would back the Argentine cause.¹⁶ Argentina was offended that the US had denied its request for "full intelligence support"¹⁷ in a war against Britain, indicating that Galtieri and his junta were naive about international affairs and politics and the "special relationship" between Britain and the US. The only intelligence Argentina was to receive from the US was Landsat imagery granted perforce due to a contractual agreement with the National Aeronautics and Space Administration (NASA).¹⁸ Argentina thus managed to successfully acquire satellite imagery of South Georgia, the open seas of the south Atlantic, and the Falklands, presumably to assist in targeting the British task force with bombers; however, the US provided Britain with the same imagery and mollified London by showing that Landsat was a civilian image acquisition system that presented only low-resolution images of little intelligence value. Although the US was neutral on the matter of sovereignty of the Falklands itself and initially maintained an "even-handed approach,"¹⁹ it was not neutral over the Argentine use of force, and there was never any real chance that Argentina would benefit from US military intelligence. Public and official support for Britain remained high both in the US and in Europe.

Galtieri may have failed to efficiently exploit his time advantage in terms of Task Force 317's distance from the Islands, but his air forces were more competently led and thus better prepared. Argentine air assets were divided among the three services: the *Commando de Aviación del Ejército*, or Army Air Command, which operated tactical and troop-lift helicopters from the Islands; *CANA*, which took advantage of airfields on the mainland and on the Islands;²⁰ and the *Fuerza Aérea Sur (FAS)*, or Southern Air Force, a component of the *FAA* designated to

control the air war in the South Atlantic.²¹ The *FAS* was set up on 5 April under the command of an experienced air force pilot and commander, Brigadier-General (BGen) Crespo.²² Its primary mission was simply to attack the British fleet. It was a modern, capable, and well-trained air force, and along with Chile's, one of the best in South America.²³ Crespo immediately set to the preparation of his pilots for the oncoming onslaught, exercising them vigorously against each other and against the Argentine navy standing in for British warships.²⁴

While all army, navy, and air force units physically deployed to the Islands were under the command of BGen Menendez, who reported to Vice-Admiral Lombardo (Commander South Atlantic Theatre of Operations), Crespo himself reported directly to the ruling junta. He was expected to coordinate his operations with Menendez, but it was not a clear system of command and control,²⁵ particularly as air assets on the Islands were under Menendez's authority. This was exacerbated by an awkward air traffic control system that involved multiple departments, apparently necessitated by the requirement for intra-coordination of the air assets of the *FAA*, the Army Air Command and *CANA*.²⁶ In fact, the first time the *FAS* and *CANA* actually worked together was during the 30 May attack on Her Majesty's Ship (HMS) *Invincible*.²⁷

Crespo himself was limited as to where to base his own 122 aircraft.²⁸ Most of his southern mainland bases were not sufficiently disposed to facilitate large-scale air mobilization; for instance, Rio Gallegos was underdeveloped, and the Naval Command bases at Trelew and Rio Grande were either limited by their distance from the theatre or by their inadequate facilities.²⁹ Crespo resorted to three civilian airfields in the Santa Cruz province to supplement his available airfields, chief of which was San Julian. The disposition of major Argentine air assets during the Falklands War is illustrated in Table 1.

AIR BASE <small>(Air/Navy/Civil)</small>	COMMAND	AIRCRAFT
Rio Grande <small>(Argentina's major military base during the War)</small>	<i>FAS</i>	10 Dagger (Mirage V fighter)
	<i>CANA</i>	8 A4-Q Skyhawk (fighter) 4 Super Etendard (fighter) 6 S-2E Tracker (antisubmarine) 2 Neptune (antisubmarine/reconnaissance)
Rio Gallegos	<i>FAS</i>	24 A-4B Skyhawk (fighter) <i>10 Mirage III</i> (fighter) <i>Canberra</i> (bomber) <i>KC-130H</i> (tanker)
Santa Cruz	Civilian Airfield (FAS)	Mainland support establishment for Pucara deployed to Islands
San Julian	Civilian Airfield (FAS)	10 Dagger (fighter) 15 A-4C Skyhawk (fighter)
Puerto Deseado	Civilian Airfield (FAS)	Served as a diversion field and a search and rescue facility
Comodoro Rivadavia	<i>FAS</i>	20 Pucara (counter-insurgency) 3 Boeing 707 (transport) 7 C-130 (transport) 2 KC-130H (tanker) Learjet (impressed civilian/reconnaissance) 6 Twin Otter (transport) F-27, F-28 (transport) <i>Mirage III</i> (fighter)
Trelew	<i>FAS</i>	8 Canberra (bomber)
Port Stanley	<i>CANA</i> (under BGen Menendez)	6 MB-339A (light strike) 1 Puma (SAR helo) 2 Skyvan (transport)
	<i>FAS</i>	<i>Pucara</i> (counter-insurgency)
	Army Air Command	5 SA.330L Puma (tactical helo) 2 CH-47C Chinook (tactical helo) 9 UH-1H Iroquois (tactical helo) 3 A-109A Hirundo (tactical helo)
Goose Green	<i>FAS</i>	24 Pucara
Pebble Island	<i>CANA</i> (under BGen Menendez)	4 T-34C Mentor (light attack)
	<i>FAS</i>	Pucara (counter-insurgency)

TABLE 1. DISPOSITION OF MAJOR ARGENTINE AIR ASSETS AT THE TIME OF THE FALKLANDS WAR. AIRCRAFT IN ITALICS OFTEN FLEW OUT OF THE BASE INDICATED, BUT WERE OFFICIALLY STATIONED AT ANOTHER BASE.³⁰

A head on view from HMS Broadsword of two Argentine A4-B Skyhawks (piloted by Capitan Pablo Carballo and Teniente Carlos Rinke of V Air Brigade) as they fly through a hail of anti aircraft fire to attack the ship north of Pebble Island on the afternoon of May 25, 1982. © Crown copyright. IWM http://www.iwm.org.uk/sites/default/files/public-document/IWM_NonCommercial_Licence_1.pdf



Not only did Crespo have the war looming over the Islands to consider, but there was also the legacy of the Chilean threat. Prior to the invasion, Argentina's increasingly aggressive claims over the Chilean-controlled Beagle Channel Islands had been causing high levels of tension between Buenos Aires and Santiago. The greater part of the *FAA's* airfields had, therefore, been built in northern Argentina, oriented toward possible Chilean incursions, and Argentine pilots had trained extensively for close air combat against Chile.³¹ Given the Argentineans were aware of the friendly relations between Santiago and London and feared possible collusion between Chile and Britain, they were not disposed to alter this strategy, and defence against Chile remained a priority throughout the war.³²

This was a reasonable fear, although it was self-perpetuating. Chile was concerned that a victorious Argentina in the Falklands would be emboldened enough to follow it up with an invasion of its own territory.³³ Santiago also had reason to expect that Argentine expansionism would not stop at the Beagle Channel. The Argentine troops and airmen stationed near the Chilean border may have

been a necessary defence for Argentine fears, but they were ideally positioned to cross over into Chile once the Falklands matter was settled.³⁴ This ramping up of forces along the border caused, either directly or indirectly, a distraction for Argentina that prevented it from concentrating its forces in the Islands and provided a pathway for a common-cause relationship to blossom between Chile and Britain.

For the British, an alliance with Chile was an ideal prospect. Britain lacked any significant intelligence on Argentine air bases³⁵ and sent a military official to Chile's General Matthei, a member of Augusto Pinochet's ruling junta, to explore possibilities of cooperation in information and intelligence gathering.³⁶ It could be said that an indirect result of Argentina's aggressive and fearful stance over Chile was the subsequent provision to the Chilean military of British aircraft, long-range radar, anti-aircraft missiles, and a photo-reconnaissance unit (PRU) with oblique cameras to overlook Argentina from Chilean airspace.³⁷ In particular, the long-range radar and PRU was used during the war to provide Britain with air

intelligence. Matthei installed the radar in southern Chile to collect information about activity in the Argentine base Comodoro Rivadavia, the *FAS* headquarters. He also based a secure underground command centre in Punta Arenas to synthesize radar intelligence. British agents worked from there and forwarded information on Argentine aircraft movements to London;³⁸ given the lack of any British airborne early warning (AEW) platform, this information was essential.³⁹

The Anglo-Chilean relationship was not the only covert connection during the war. American aid under the Reagan administration was initially muted due to a desire to retain favourable links with Latin America, and it was deemed necessary to appear impartial and “even-handed.”⁴⁰ However, US military aid was indeed funnelled through the United States Air Force (USAF) Base Wideawake on British-owned Ascension Island, midway between the United Kingdom (UK) and the Falklands. Approximately \$120 million of US material was readily made available, often at the expense of ongoing US operations, and sent either to the UK or to Ascension Island for use.⁴¹ In terms of air power, this included Sidewinder missiles, Vulcan/Phalanx anti-missile gun systems, 4,700 tonnes of airstrip matting for rebuilding the captured Stanley airport, Shrike missiles for use by the Vulcans, helicopter engines, submarine detection devices for use by RN Sea King helicopters, and Stinger ground-to-air missiles.⁴² Any Argentine hopes that Britain would become financially drained in her efforts to mount the offensive were in vain.

Argentina, insulted over US refusals to come to its aid, became suspicious that the US was indeed helping Britain. The optics of US military aid to Britain were bad for the American image in Latin America; however, US aid was not so much given in terms of strategic satellite intelligence, as was commonly believed, but more in terms of tactical signals interception from Argentina.⁴³ Officially, the

only military satellite intelligence provided to Britain from the US during the entire campaign was of South Georgia, taken a week after Argentina’s invasion of the South Georgia Islands, in an effort to gain awareness of Argentina’s troop disposition there.⁴⁴ However, there are suspicions that Britain may have gained battle damage assessment (BDA) intelligence on Argentine air assets on the mainland from US satellite imagery.⁴⁵ Again, Galtieri’s naivety in assuming the US would either come to its aid or at least remain neutral was a major strategic error.

In another case of Argentina being unable to secure international support, France played an instrumental role in assisting Britain. Argentina placed great hopes in its Super Etendard aircraft, recently purchased from France, along with the modern and fearsome Exocet missile.⁴⁶ While most of Argentina’s weaponry incorporated older technology, the Exocet was a powerful, radar-guided warhead with a 25-mile (40-kilometres [km]) plus range.⁴⁷ However, Argentina had taken delivery of only five of the aircraft and five of the missiles ordered, and as of 15 April, France had suspended all trade with Argentina in accordance with the arms embargo put in place by the European Community.⁴⁸ French President Mitterand proceeded to provide London with extensive and detailed lists of prior French military exports to Argentina, including “...modifications/limitations to systems, precise capabilities of key aircraft as well as serviceability rates, spares consumption and known shortages, and proficiency of those Argentine pilots trained by the French.”⁴⁹ More important was the technical information provided on the Exocet itself, giving Britain full knowledge of this missile threat.

Mere British knowledge about the Exocet, however, did not diminish its tactical relevance, and the Argentineans knew this, particularly after two of their missiles successfully engaged the British destroyer

HMS *Sheffield* (4 May)⁵⁰ and the supply ship *Atlantic Conveyor* (25 May).⁵¹ Accordingly, they set about trying to acquire more missiles from anywhere in the world they could. One potential conduit for Argentina was Peru. Peru ordered four Exocet missiles from France, but the French delayed delivery as they suspected the ultimate destination was likely to be Argentina.⁵² Almost all other developed countries were complicit with the arms embargo, and almost all *developing* countries that had Exocets did not want to give them up. Those countries that were actively attempting to aid Argentina's missile programme (such as Peru, Venezuela, Israel, South Africa, Iran, and Libya) were hindered by a major British covert operation to interdict arms transfers.⁵³ The British Defence Minister, Sir John Nott, later claimed that he

authorised [British] agents to pose as bona fide purchasers of equipment on the international market, ensuring that [they] outbid the Argentineans, and other agents identified Exocet missiles in various markets and covertly rendered them inoperable, based on information provided by the French. It was a remarkably successful operation. In spite of strenuous efforts by several countries, particularly the Israelis and the South Africans, to help Argentina, we succeeded in intercepting and preventing the supply of further equipment to the Argentineans who were desperately seeking re-supply.⁵⁴

The magnitude of international intelligence and espionage activities required to enforce the embargo was clearly significant. Since the British were also occupied with the Irish Republican Army (IRA) in Northern Ireland and with the cold war in Europe, Argentina's best hope in all of its strategic efforts to acquire more Exocets lay in causing yet further drains on British resources.

Any tactical or strategic benefits realized by Crespo from the five Exocets in his arsenal

were affected both by technical problems and by the distance his pilots had to fly in order to deliver them. The British worried that should *CANA* deploy its Super Etendards from the Argentine aircraft carrier *25 de Mayo*, it would greatly enhance its mobility, and thus the Exocet missiles would themselves pose a far greater threat.⁵⁵ However, a defective catapult system on the *25 de Mayo* prohibited carrier takeoffs for the Etendards.⁵⁶ Nevertheless, the RN deemed it necessary to station the British carrier group over 100 miles (160 km) east of the Islands in order to force *FAS* air power to the extent of its range.⁵⁷

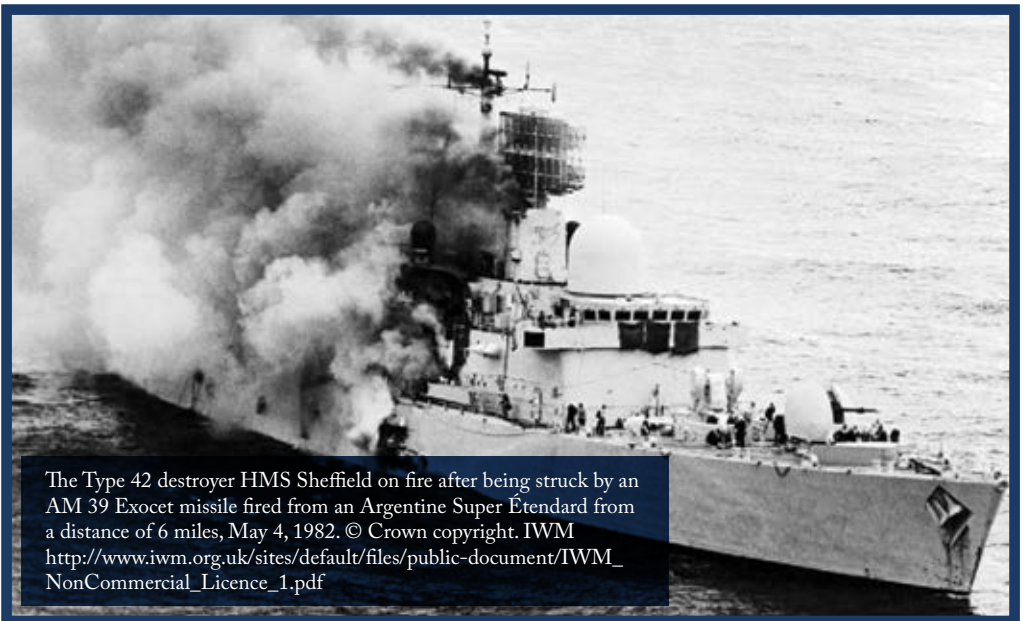
The strategic advantage Argentina enjoyed in terms of proximity to the Islands was considerable, but the reach of the RN was long, especially with the use of USAF Base Wideawake on Ascension Island and the two RN aircraft carriers *Hermes* and *Invincible*.⁵⁸ The British lack of AEW meant that they had to minimize Argentine pilots' time on target; any significant damage sustained to either of the two carriers would have likely cost Britain the war.⁵⁹ A spin off of this (happily for the British) was that the Argentine pilots could not exploit the tactical edge their supersonic Mirage fighters held over the British Harriers, because by turning on the afterburners, they would run out of fuel before reaching home.⁶⁰ This, in turn, presented the *FAS* with a tactical time advantage in attacking RN escort frigates closer to the Islands, as the Harriers had to fly all the way from the fleet in order to engage them.⁶¹

Another tactical advantage exploited by the *FAS* was given by its operators' skilful use of a leading-edge Westinghouse long-range radar and accompanying Cardion tactical surveillance radar mounted at Port Stanley.⁶² Using sophisticated plotting algorithms to analyse recurring RAF flight patterns, the *FAS* personnel were sometimes able to ascertain an approximate location for the British fleet. This facilitated the *FAS* plan of attack on HMS *Invincible* on 30 May.⁶³

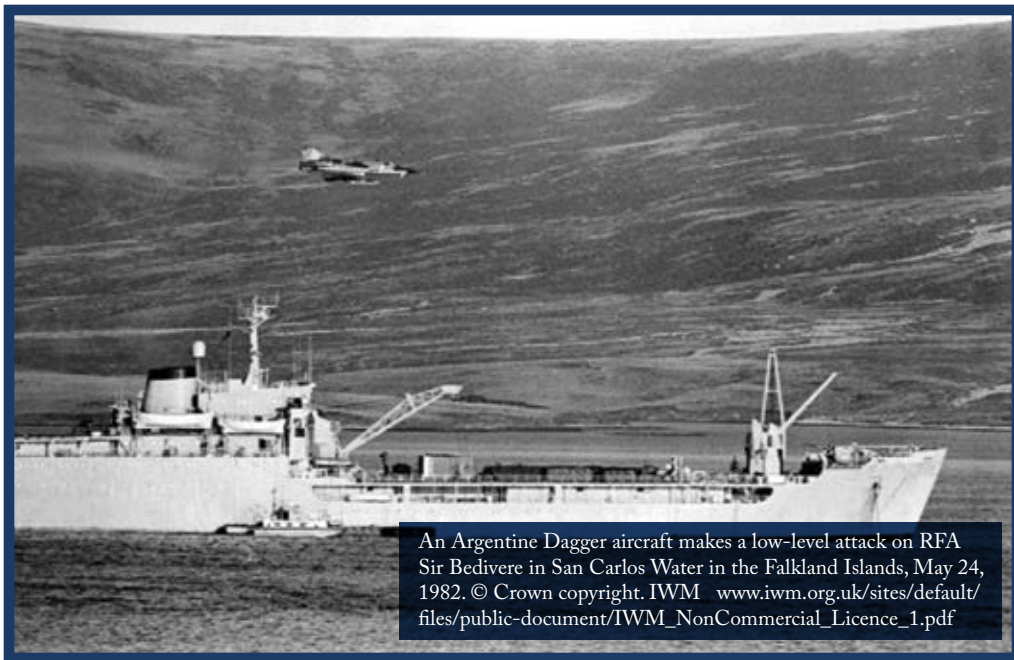
Unfortunately for Crespo, significant strategic and tactical deficiencies relative to the RAF and RN plagued the *FAS*. One limitation was frequent bad weather and the requirement for most *FAS* aircraft to fly under visual flight rules (VFR); this restricted deployments to narrow windows of attack.⁶⁴ Another was the lack of an extensive air-to-air refuelling capability that resulted in the long distances between the mainland and the Islands limiting *FAS* time on target due to fuel.⁶⁵ In spite of this, the *FAS* used its two KC-130 tankers exceptionally well, carefully planning and coordinating missions in order to successfully meet as many refuelling points as possible. The lack of long-range reconnaissance aircraft was also a strategic deficiency as it prevented accurate BDA and other intelligence from being gathered (the *FAS* possessed only two aging P-2 Neptunes capable of reconnoitring the area). Interestingly, Buenos Aires was able to collect some BDA by listening in on the British Broadcasting Corporation's (BBC's) coverage of the war. An evolving policy of open communication between the British government and British media was responsible for broadcasting, albeit inadvertently, to the *FAS* that its Exocet

strike on HMS *Sheffield* had been successful.⁶⁶ It is possible that this confirmation provided the motivation for further Exocet attacks and precipitated the attack that sank the British supply ship *Atlantic Conveyor*.

There was also a lack of tactically employed radar defence measures on *FAS* aircraft, with only the Super Etendards and the Daggers being equipped with radar warning receivers.⁶⁷ Furthermore, all *FAS* aircraft suffered a distinct lack of effective electronic warfare countermeasures (ECM) such as chaff and flares; this frustrated *FAS* efforts to avoid the Harrier's heat-seeking Sidewinder missiles.⁶⁸ However, the ingenuity and flexibility of *FAS* pilots partially overcame this disadvantage, and because the British possessed no AEW and relied on shipborne radar defences, the *FAS* was able to successfully ingress by flying in dangerously low-level tactical manoeuvres.⁶⁹ This involved flying at a normal altitude from the mainland until about 100 nautical miles (185 km) away from the target, then dropping to about 150 feet (46 metres) above sea level for the ingress, attack, and initial egress. It was in this manner that the *FAS* was able to strike the *Sheffield* with an Exocet.



The Type 42 destroyer HMS Sheffield on fire after being struck by an AM 39 Exocet missile fired from an Argentine Super Etendard from a distance of 6 miles, May 4, 1982. © Crown copyright. IWM http://www.iwm.org.uk/sites/default/files/public-document/IWM_NonCommercial_Licence_1.pdf



An Argentine Dagger aircraft makes a low-level attack on RFA Sir Bedivere in San Carlos Water in the Falkland Islands, May 24, 1982. © Crown copyright. IWM www.iwm.org.uk/sites/default/files/public-document/IWM_NonCommercial_Licence_1.pdf

One possible consequence of having to fly so low to avoid radar detection was the repeated malfunctioning of bombs released from the fighters. Many bombs hit their RN targets but failed to detonate. In flying so low, the window of time between dropping the bomb and hitting the target may have been too small for the fuse to function.⁷⁰ In addition to this, Argentina had no precision-guided bombs, and pilots had to skilfully mark their targets hoping that they would accurately hit home.⁷¹ Furthermore, the *FAS*'s main air intercept missile (an early model of the French Matra 530) had a low range of six miles (10 km), a field of vision only 30 to 40 degrees wide, and could only lock on to the Harrier from behind.⁷² In contrast to the Harrier's Sidewinder missiles, this was severely limiting.⁷³ These tactical limitations gave the British some luck (in being hit by dumb bombs) and a decided superiority in air-to-air combat and exemplify the courage and tenacity of the *FAS* pilots who were able, despite their deficiencies, to sink 7 ships, disable 5 more, and damage a further 12.⁷⁴ This earned the respect of the British naval commander, Rear Admiral James Woodward,

who commented on their "continued efforts and bravery."⁷⁵

Tactically, *FAS* pilots performed superbly. This was demonstrated by such methods as performing most of their attacks in the late afternoon, when the *FAS* pilots would have the setting sun at their backs and in the faces of their enemy.⁷⁶ Another example of their tactical prowess occurred after the British landing at San Carlos.⁷⁷ Using the tall hills of the landscape as a screen, they were able to successfully challenge sophisticated British air defence systems by flying low and suddenly appearing over the hills, giving the British only about 25 seconds to mark their targets and shoot, turning back on itself the apparent British tactical advantage of hiding their fleet.⁷⁸ In this manner, HMS *Ardent* was sunk, and four other ships suffered moderate to heavy damage during the landing; nine *FAS* aircraft and four more based on the Islands were shot down, yet the *FAS* pilots kept flying.⁷⁹

Finally, Crespo showed initiative and daring when he established an improvised

squadron of impressed civilian Learjets to act as unarmed decoys.⁸⁰ *Escuadron Fenix* (Phoenix Squadron), as it was known, was based at Trelew and would simulate attacks by Canberra bombers by flying close enough to be noticed by British radar. By the time the British Harriers had been scrambled and sent after them, the Learjets were safely on their way home. Apart from diverting priority Harrier combat air patrols from their tasks, this caused a frustrating distraction and waste of resources on the part of the British. But in the end, ingenuity and innovation in war was not enough for the Argentine airmen.

Deficiencies in strategic capabilities, such as the poor decision-making abilities of the military junta and the lack of air-to-air refueling and long-range reconnaissance aircraft, overcame the skill, courage, and tenacity of *FAS* personnel, and despite being well-trained

and reasonably well-equipped, the *FAS* was unable to prevent an early Argentine defeat. It is quite conceivable that the British would have won the conflict regardless of the Argentine strategy, especially given the intelligence input from France, Chile, and the United States. Nevertheless, the quality of the fight waged by the Argentine air forces leads one to believe that the length of the war and the number of British casualties may have been substantially greater had these strategic deficiencies been corrected. Ⓞ

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Argentine prisoners wait to hand in their weapons and other equipment at Port Stanley after the surrender. Many of the Argentine troops were conscripts with limited training. © Crown copyright. IWM www.iwm.org.uk/sites/default/files/public-document/IWM_NonCommercial_Licence_1.pdf

ABBREVIATIONS

AEW	airborne early warning
BDA	battle damage assessment
BGen	brigadier-general
CANA	<i>Comando Aviación Naval Argentina</i> (Argentine Naval Air Command)
FAA	<i>Fuerza Aérea Argentina</i> (Argentine Air Force)
FAS	<i>Fuerza Aérea Sur</i> (Southern Air Force)
HMS	Her Majesty's Ship
km	kilometre
PRU	photo-reconnaissance unit
RAF	Royal Air Force
RN	Royal Navy
UK	United Kingdom
US	United States
USAF	United States Air Force

NOTES

1. James S. Corum, "Argentine Airpower in the Falklands War: An Operational View," *Air & Space Power Journal* 16, no. 3 (2002): 63; and Rodolfo Pereyra, "Clausewitz and the Falkland Islands Air War," *Air & Space Power Journal* 20, no. 3 (2006): 114. Major Pereyra's (Uruguayan Air Force) article relates the military philosopher Clausewitz's ideas to the air war in the Falklands, but it is also a valuable source for a South American perspective on the war.

2. Corum, "Argentine Airpower," 59–60, 63, 69. Pereyra described the evolution of the islands' destiny as "dominated by aerial combat." See Pereyra, "Clausewitz," 111, 118.

3. Jozef Goldblat and Victor Millán, *The Falklands/Malvinas Conflict – A Spur to Arms Build-ups* (Solna, Sweden: Stockholm International Peace Research Institute, 1983), 6–7; Pereyra, "Clausewitz," 112; and Joseph A. Page, *Peron: A Biography* (New York: Random House, 1983), 501.

4. Lawrence Freedman, *The Official History of the Falklands Campaign, Vol. II: War and Diplomacy*, 3rd ed. (London: Routledge, 2007), 74. The history of the dispute is largely documented elsewhere, but it is worth noting that the Argentineans held—and continue to hold—the issue of sovereignty over the Islands close to their hearts.

5. Pereyra, "Clausewitz," 113.

6. Ibid.

7. Freedman, *Official History*, 4, 7–11; Corum, "Argentine Airpower," 60; Pereyra, "Clausewitz," 113.

8. Corum, "Argentine Airpower," 63; and Pereyra, "Clausewitz," 114–16.

9. Corum, "Argentine Airpower," 63.

10. Ibid., 62–63. Task Force 317 comprised 25,000 men and over 100 naval vessels including the 2 aircraft carriers HMS *Hermes* and HMS *Invincible* with associated air power and air defence systems. See also Pereyra, "Clausewitz," 114.

11. Corum, "Argentine Airpower," 63, 73; and Pereyra, "Clausewitz," 116.

12. Corum, "Argentine Airpower," 73. The Skyhawks belonged operationally to the *Comando Aviación Naval Argentina*; the Daggers, Israeli versions of the Mirage V fighters, belonged to the *FAA*. See Rodney A. Burden and others, *Falklands: The Air War* (Dorset, Great Britain: Arms and Armour Press, 1987), 39, 129 for more details.

13. Corum, "Argentine Airpower," and 63; Burden and others, *Falklands*, 82.

14. Corum, "Argentine Airpower," 63.

15. Pebble Island, just off the north tip of West Falkland, was significant to the Argentineans because of radar installations and the necessity to base close air support and light attack aircraft there in order to menace any British approach to Falkland Sound from the north. However, with only a handful of T-34C Mentors and a squadron of ill-suited Pucarás available, the strategy was not maximized.

Pebble Island was rendered even less useful after the British Special Air Service conducted a raid and destroyed all the aircraft, fuel, and ammunition on the airfield. Freedman, *Official History*, 435, and Corum, "Argentine airpower," 74. See also Table 1 for a distribution of Argentine air assets during the war.

16. Corum, "Argentine Airpower," 73.

17. *Ibid.*

18. Freedman, *Official History*, 388–90.

19. *Ibid.*, 130–31.

20. *CANA* was unable to launch its Super Etendards from its only aircraft carrier, *25 de Mayo*, due to technical issues, and general operational capability with any aircraft was limited to daylight hours in good weather. Furthermore, after the British sank the Argentine warship *Belgrano*, the carrier returned to its port and stayed there for the remainder of the war. Freedman, *Official History*, 264–65; and Corum, "Argentine Airpower," 69.

21. Corum, "Argentine Airpower," 60–61.

22. *Ibid.*; Burden and others, *Falklands*, 18–19.

23. Corum, "Argentine Airpower," 61–62.

24. *Ibid.*

25. *Ibid.*, 61, 74; Burden et al., *Falklands*, 19, 162; and Pereyra, "Clausewitz," 115.

26. Burden and others, *Falklands*, 162.

27. Freedman, *Official History*, 545. This was the last Exocet attack by the Argentineans, which although skilfully executed, was rendered impotent by RN anti-aircraft fire. Skyhawk pilots later confused the hulk of the *Atlantic Conveyor*, sunk on 25 May, for HMS *Invincible*, and subsequently attacked it, thinking it victim of the more recent attack. See also Corum, "Argentine Airpower," 72.

28. See Table 1 for a disposition of Argentine aircraft. The *FAA* had a total of 122 aircraft at its disposal. See Corum, "Argentine Airpower," 63.

29. Burden et al., *Falklands*, 19.

30. Corum, "Argentine airpower," 61–63; and Burden and others, *Falklands*, 14–182.

31. Freedman, *Official History*, 77; and Corum, "Argentine Airpower," 62.

32. Paolo Tripodi, "General Matthei's Revelation and Chile's Role During the Falklands War: A New Perspective on the Conflict in the South Atlantic," *Journal of Strategic Studies* 26, no. 4 (2003): 113–14, 118, 120–21.

33. *Ibid.*, 113, 118; and Freedman, *Official History*, 396.

34. Tripodi, "General Matthei's Revelation," 118–19.

35. Britain had in fact generated a wish list in case the US were to offer aid that included "strategic, tactical and technical intelligence cover of Argentine strengths, dispositions, intentions and deficiencies" Freedman, *Official History*, 384.

36. *Ibid.*, 397; Tripodi, "General Matthei's Revelation," 115–16. Chile was also considered for potential forward operating bases for British aircraft such as the Nimrod maritime patrol aircraft. The Nimrod was based at San Felix, Chile, conducting surveillance and reconnaissance for a limited time, but the political dangers of the Anglo-Chilean collusion being exposed cut the operation short. Another idea involved targeting the Argentine oil fields in Tierra del Fuego with air strikes; this, too, was politically problematic and any garrison holding the area would be subject to attack from Argentine mainland airfields. The focus thus centered on cooperation in intelligence acquisition. See Freedman, *Official History*, 394–95, 401.

37. Freedman, *Official History*, 398; and Tripodi, "General Matthei's Revelation," 116.

38. Freedman, *Official History*, 401; and Tripodi, "General Matthei's Revelation," 114–16, 120. Prime Minister Thatcher herself remarked on the aid the Chilean military provided Britain during the war and the proof

of its value. Two Royal Fleet Auxiliary (RFA) landing ships, *Sir Galahad* and *Sir Tristram*, were destroyed by Argentine forces on 8 June, the same day that the Chilean long-range radar was offline due to maintenance (RFA *Sir Tristram* was later repaired). See Margaret Thatcher's speech in "Pinochet was this country's staunch, true friend," *The Guardian*, October 6, 1999, <http://www.guardian.co.uk/world/1999/oct/06/pinochet.chile?INTCMP=SRCH>, cited in Tripodi, "General Matthei's Revelation," 117–18 (accessed August 13, 2012).

39. Freedman, *Official History*, 732; Corum, "Argentine Airpower," 68; and Tripodi, "General Matthei's Revelation," 117.

40. Freedman, *Official History*, 130–31.

41. *Ibid.*, 387–88. A deal was made whereby Britain would pay only for stocks used, and return unused weapons and supplies.

42. *Ibid.* The Vulcans were long-range bombers used by the RAF to bomb the runway at Port Stanley (Operation BLACK BUCK) in hopes of disrupting Argentine air supply lines and preventing the use of the runway by enemy aircraft. A consequent Argentine fear that the RAF might bomb the mainland was one factor that prevented the *FAA* from deploying all of its Mirage III fighters in the Falklands theatre. Another factor may have been the vulnerability of the Mirage to the Harrier as evidenced by the air battle of 1 May when the *FAA* responded to BLACK BUCK with an air assault on the British task force. See Burden and others, *Falklands*, 144; Corum, "Argentine Airpower," 65; John R. Harvey, "Regional Ballistic Missiles and Advanced Strike Aircraft: Comparing Military Effectiveness," *International Security* 17, no. 2 (1992): 57; and Freedman, *Official History*, 263, 279–86, 425.

43. Lawrence Freedman, *Britain and the Falklands War* (Oxford: Basil Blackwood Ltd, 1988), 71; and Freedman, *Official History*, 73.

44. Freedman, *Official History*, 73, 241. South Georgia was invaded the day after the Falklands. In the interest of scope, I have limited

this paper to the Falklands theatre. Details on South Georgia can be found in Freedman, *Official History*, 11–14, 226–60.

45. Corum, "Argentine Airpower," 67. This intelligence may also have originated from Chile. See Freedman, *Official History*, 398; Tripodi, "General Matthei's Revelation," 116.

46. Corum, "Argentine Airpower," 61; Pereyra, "Clausewitz," 115; and Patrick Chisan Hew, "National Effects-Based Operations: The Example of Fleet Air Defence," *Security Challenges* 4, no. 1 (2008): 94.

47. Corum, "Argentine Airpower," 62; Pereyra, "Clausewitz," 115; and Freedman, *Official History*, 233.

48. The European Community agreed to an embargo against Argentina on 9 April. Freedman, *Official History*, 264; Freedman, *Britain and the Falklands War*, 41; Hew, "National Effects-Based Operations," 94; and Corum, "Argentine Airpower," 68. There is some evidence that the French firm *Société Nationale Industrielle Aérospatiale* (SNIAS, the forerunner to *Aérospatiale*) continued to provide aid to Argentine technicians in their efforts to arm the fighters with the missiles (there were apparently problems with the alignment of the inertial navigation systems). However, given the nature of French presidential support, it is highly unlikely any such aid would have been sanctioned. British engagement with the French Mitterand government was amicable and productive, resulting in the provision of detailed intelligence on French-supplied weapons and aircraft. See Freedman, *Official History*, 73, 264–65, 302.

49. Freedman, *Official History*, 73.

50. *Ibid.*, 304; and Harvey, "Regional Ballistic Missiles", 56.

51. Freedman, *Official History*, 487; and Harvey, "Regional Ballistic Missiles," 56.

52. Freedman, *Official History*, 390.

53. Hew, "National Effects-Based Operations," 94–96; and Freedman, *Official History*, 390–93, 496. Israel vehemently

denied any involvement, although Israeli equipment was found on the Falklands after the war. For an interesting and detailed account of the connection between Muammar Gaddafi's Libya and Argentina, started during the final years of the Perón era and lasting through the war, see Jimmy Burns, *The Land that Lost its Heroes: The Falklands, the Post-war and Alfonsín* (London: Bloomsbury Publishing Ltd, 1987), 59–64.

54. Sir John Nott, *Here Today, Gone Tomorrow: Recollections of an Errant Politician* (London: Politico's, 2002), 305, cited in Freedman, *Official History*, 391. Sir John Nott was the British Defence Minister during the war.

55. Freedman, *Official History*, 264–65.

56. *Ibid.*

57. Corum, "Argentine Airpower," 66; and Hew, "National Effects-Based Operations," 96.

58. Freedman, *Official History*, 383; and Freedman, *Britain and the Falklands War*, 72.

59. Tripodi, "General Matthei's Revelation," 117. Tripodi presents this as a reactionary strategy where Britain was forced east of the Falklands due to lack of AEW, rather than choosing to position east in order to constrain FAS fighter range. The two were doubtlessly linked. An additional constraint on the British, however, was that the lack of replacements for lost Sea Harriers required a defensive strategy in terms of safeguarding the carriers.

60. Corum, "Argentine Airpower," 66; and Tripodi, "General Matthei's Revelation," 117. The range of the Skyhawk (575 miles [925 km]) could just reach the fleet; the Mirage (625 miles [1,005 km]) had a few minutes of action before having to return home. See House of Commons, *The Falklands Campaign: The Lessons* (London: HMSO, 1986), 4.

61. Tripodi, "General Matthei's Revelation," 117–18.

62. Corum, "Argentine Airpower," 67; and Pereyra, "Clausewitz," 117.

63. Freedman, *Official History*, 545; Pereyra, "Clausewitz," 117; and Jeffrey Ethell and Alfred Price, *Air War South Atlantic* (London: Sidgwick and Jackson, 1986), 221–22.

64. Corum, "Argentine Airpower," 67.

65. Freedman, *Official History*, 79; Corum, "Argentine Airpower," 62, 66–67; Pereyra, "Clausewitz," 116; and Tripodi, "General Matthei's Revelation," 117.

66. Freedman, *Official History*, 36, 413; Corum, "Argentine Airpower," 69; and House of Commons, *The Falklands Campaign*, 29–9.

67. Pereyra, "Clausewitz," 117; and Harvey, "Regional Ballistic Missiles," 56–57.

68. Harvey, "Regional Ballistic Missiles," 57.

69. Corum, "Argentine Airpower," 68; Pereyra, "Clausewitz," 116; and Harvey, "Regional Ballistic Missiles," 56.

70. Freedman, *Official History*, 473; Corum, "Argentine Airpower," 79; Pereyra, "Clausewitz," 118; Harvey, "Regional Ballistic Missiles," 57, footnote 24.

71. Corum, "Argentine Airpower," 62; and Pereyra, "Clausewitz," 117.

72. Corum, "Argentine Airpower," 62.

73. The AIM-9L Sidewinder heat-seeking missile had a field of vision 90- to 120-degrees-wide and could lock on to an enemy aircraft head-on. See Corum, "Argentine Airpower," 62.

74. Pereyra, "Clausewitz," 117.

75. Freedman, *Official History*, 484.

76. Corum, "Argentine Airpower," 69.

77. *Ibid.*, 70.

78. *Ibid.*

79. *Ibid.* See Appendix 1 in the reference for a list of Argentine aircraft losses.

80. Burden and others, *Falklands*, 151–52; and Corum, "Argentine Airpower," 70.