

Offensive Air Operations Of The Falklands War  
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Offensive Air Operations  
of  
The Flaklands War  
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INTRODUCTION

The intent of this paper is to study the offensive air action of the Falklands War. However, a complete analysis of this aspect of a conflict cannot be accomplished without reference to the other facets. Therefore, the investigation of the air war from the offensive viewpoint also required a look at the defensive measures of both sides as well as the varied tactics that evolved from these measures. Little reference, however, is made to the ground effort as this

was a conflict with two separate confrontations: the Argentine attack of the British fleet; and, the movement of the British ground force on Port Stanley.

This study is divided into three sections. The first deals with the historical background. This is necessary because it is extremely difficult to find an obvious motivation for the battle for such a small, dreary, isolated and seemingly unimportant area.

The second concerns the conflict itself, with an account of the major air action involving the weapons of offensive air power: fixed wing jet, fixed wing, and helicopter support aircraft. Interlaced with this account is commentary on the action, the tactics and the innovations implemented by both sides in the pursuit of their aims.

The third section is an analysis of the major issues of the war. It summarizes the reasons for the British victory, a triumph that was extremely difficult to attain. It also addresses the reasons for Argentine failure despite the fact that the air war was so resolutely pursued by them.

There is no paucity of material on the subject especially from the British point of view. Understandably, however, Argentine sources are scarce. The critiques of their losing effort are probably still locked away in Buenos Aires.

Caution had to be taken since most sources were produced with great rapidity. Books and articles were extremely informative but, for the most part, not well documented. Many were provided by British war correspondents and even their on-the-scene accounts of the same event conflicted. Much of the journal writings were analytical in form, with similarity in many of the conclusions. Technical journals provided useful information on the effects of weapons systems; however, these had to be examined with a watchful eye for prejudice. Many of the manufacturers of these systems are advertisers in these publications.

Two themes seem to prevail from this study. First, the war emphasized that human principles and nationalistic beliefs, when challenged, are themselves likely causes for armed conflict. Second, modern technology provides the military with highly effective weapons systems but these systems may only be effective when employed against the technology they are designed to combat. Therefore, British fleet defense weapons, designed to combat the sophisticated Russian threat such as the Backfire and Badger, were challenged beyond their limits by the World War II bombing tactics employed by the Argentines.

#### Chapter 1

##### Historical Background

The Falkland Islands conflict between Argentina and Great Britain has been described as "...a quarrel between two bald men for possession of a comb..."<sup>1</sup> This seems an accurate description as the islands are not noted for their great worth, either economically or strategically. The only industry there is sheep raising and the rolling, grassy terrain coupled with a harsh, wintery climate lends the islands to little other use. Off-shore oil has been mentioned as a major motivation for British interests in keeping the Falklands. This theory has been partly refuted by a report of the mid-70's by Lord Shackleton of the British Foreign Office. The report indicated that proof of the existence of hydro-carbons had not yet been established and even if it were, extraction in so harsh an environment might be too costly.<sup>2</sup>

Time and changes in the world power structure have

wilted many beliefs in the strategic importance of these islands. Great Britain's Lord Anson, the first lord of the admiralty in the middle 1700's, felt that "even in time of peace [the islands] might be of great consequence to this nation and in time of war, would make us master of the seas."<sup>3</sup> These words reflect the belief that a port in the Falklands would handily serve as a base of refuge and a convenient replenishment facility for ships rounding Cape Horn. Since Great Britain no longer covets nor is outfitted to maintain a position of overseas maritime dominance, Lord Anson's thesis has lost its validity in today's world.

Similarly, Argentina would not appear to gain any strategic advantage in controlling these islands. The presence of British citizens is not a threat to Argentina. The historical use of the islands by the British reflects merely a peaceful use by a small group of British descendants who prefer their insular habitat. A perceived threat to Argentina from the islands is ludicrous. Conversely, its existence in this form seems a suitably safe feature for islands 400 miles from Argentine shores.

Both Britain and Argentina have used the islands in conjunction with Antarctic exploration but these have been primarily scientific ventures. Both countries have reason to covet the islands as a gateway to the Antarctic and its mineral worth but it is not safe to assume their future plans for the Antarctic Peninsula were motivation for the conflict. This seems more likely to be a reason for continued negotiation and not war.

Why then would two nations, allied by trade agreements and with similar beliefs with respect to world order become lethal enemies over a useless territory? A look at the history of the islands and British/Argentine relations provides an answer, as the series of events dating to the late 1600's set the historical precedence for the conflict.

A British seaman, Captain John Strong, first set foot on the Falklands in 1690. He charted the sound between the two main islands and sailed off having made no formal claim to the area. Spain was the principle colonial power of the region, and twenty-three years after Strong's arrival, an adjunct of the Treaty of Utrecht, ending the war of the Spanish Succession, affirmed Spain's control of the territories in the Americas.

The French disregarded the agreement however. A French nobleman, Antoine de Bougainville, formally claimed the islands for Louis XV in 1764. He even established a settlement there, Port Louis, north of what is presently Port Stanley on East Falkland.

One year later, Great Britain's Commodore John Byron, arrived on West Falkland and, without knowledge of the French settlement, raised the Union Jack, called the area on which he stood Port Egmont and, like his predecessor Strong, sailed off to continue his planned journey. One year later, Captain John McBride was sent to consolidate Byron's claim and discovered the French on the neighboring island.

The Spanish meanwhile, were infuriated that the Treaty of Utrecht had been violated. After negotiations with the French, Madrid received Port Louis in return for monetary compensation for de Bougainville. The Frenchman was extremely glad to be rid of his settlement for the harsh climate and its desolation had dampened his enthusiasm for the area.

Spain continued to enforce the Utrecht agreement by ousting the British on West Falkland. This caused harsh reactions within the British government. Threats of war

were made, but a year of diplomacy finally quelled the storm and resulted in an agreement permitting the British to return to Port Egmont.

In 1790, Britain, in what is termed the Nootka Sound Convention, renounced any colonial ambitions in South America and the adjacent islands of the continent.<sup>4</sup> This agreement was without substance, however. In the ensuing years, the British continued to maintain a colony on the "adjacent" Falklands. Perhaps Lord Anson's theory was still prevalent or perhaps, even then, a strong nationalistic feeling of "pride of ownership" caused the British to covet control of the islands.

In 1808, Napoleon's invasion of Spain precipitated the quest for independence of the Spanish colonies in South America. After nearly 20 years of fighting Spanish royalists, an independent government in Buenos Aires gained control of the area which forms present day Argentina. With this declared independence, Buenos Aires claimed control of the former Spanish possession, the Malvinas Islands.

In 1823, Argentina appointed Louis Vernet, the first governor of the Malvinas (Argentina does not recognize the name Falklands). The British Consul in Buenos Aires, Woodbine Parish, felt the need to re-establish Britain's claim to the islands by protesting Vernet's appointment. Vernet was not impressed by such protests and, in an act demonstrating the strength he felt in his new position, he detained an American ship, HARRIET, for alleged illegal seal hunting. He confiscated all material aboard and returned with the vessel to Buenos Aires. The American Consul there took exception with this act and dispatched the U.S.S. LEXINGTON (which sat conveniently in Buenos Aires Harbor) to prosecute restitution. Captain Silas Duncan, in a bold and seemingly unwarranted manner, sailed into Puerto Soledad, recovered the confiscated material, destroyed the Argentine guns, blew up their powder, sacked the settlement buildings, arrested most of the inhabitants, declared the islands "free of all government" and sailed away.<sup>5</sup>

Alerted by Parish of this turn of events, the British returned to the Falklands in 1833 with two warships, the TYNE and CLIO. Led by Captain James Onslow, they ousted the Argentine settlers. Since then the Falklands have been inhabited solely by the British.

Since the mid 1800's, the question of sovereignty of the Falklands/Malvinas has arisen on numerous occasions. Neither side was willing to compromise with respect to territorial claims and the sovereignty issue. Finally the United Nations, with resolution 2065 in 1965, directed both to negotiate in search of an acceptable agreement.

This began what has been described as the "Seventeen Years War", a period of inconsistent negotiations marked by numerous changes in negotiators, mostly on the British side. One of the first of these, Lord Caradon, a British representative to the United Nations, succinctly stated the British position when he said: "The interests of the inhabitants of these islands is paramount." One year later, his Argentine counterpart voiced his opposing position: "There is not the least doubt that the territory of the Falklands is much more important than the inhabitants."<sup>6</sup>

Argentina has held to her claim of sovereignty throughout the 17 years of negotiations. Britain has, however, changed her position to suit the policies of the reigning political party. Negotiations taking place in 1964 by Lord Chalfont, a Foreign Office minister, were conducted on the premise that British "national interests overrode the

interests of the islanders."7 Later in 1966, British Foreign Secretary Michael Stewart, toured Latin America and recognizing the economic value of trade with the continent, criticized the foreign service for being too enthralled with politics at the risk of trade.

With the fall of the Harold Wilson administration in 1969, the new conservative head of the Foreign Office was Sir Alec Douglas-Home. He officially downgraded the importance of the UN directed talks, declared that sovereignty would not be an issue and emphasized that the islanders would be directly involved in any negotiations. He appointed David Scott, the under-secretary in charge of "dependent territories", to continue negotiations with Buenos Aires. Scott soon realized that sovereignty was still an issue in the eyes of the Argentines and that mere decrees from London could not change the matter.

The Argentine position was formulated by the Foreign Minister, the conservative, nationalistic, Nicanor Costa Mendez. He envisioned pursuit of his country's territorial claims as a way of strengthening his country's identity and a means to counter the appeal of Peronism.<sup>8</sup>

Scott actually negotiated with the Argentine ambassador to Great Britain, Eduardo McLonglin and Juan Carlos Beltramino, an official from their embassy in London. He proved an adept negotiator capable of putting aside the main issue of sovereignty in the belief that improved relations between Argentina and the Falklanders would eventually ease the difficulty in overcoming this obstacle. Scott saw the means to this end to be increased trade between the Islands and Argentina, geared to improving the life style of the Falklands' inhabitants thus, eventually lessening their abhorance for Argentine rule.

The fruit of his efforts was the Communications Agreement of 1971. This accord with Buenos Aires stipulated that Britain would build an airstrip on East Falkland Island and initiate a new shipping link to the islands provided that Argentina would operate an air service to the new airfield.<sup>9</sup>

Unfortunately, the British Foreign Office could not honor the airport agreement because of a lack of funds stemming from an earlier underestimation of the amount of money necessary. The Argentines offered to lay the strip themselves, but they needed the reinforcing steel mesh required to support the surface of the runway. The British obtained the required steel from the United States and prospects for the agreement seemed bright.

In May, 1972, the Argentine naval transport, CABO SAN GONZALO, sailed from Buenos Aires with 40 workmen and technicians as well as 900 tons of construction and air control equipment.<sup>10</sup> In a move nearly as impetuous as the pilaging of the American Silas Duncan, Sir Michael Hadow, the British ambassador to Argentina, refused the entry of the Argentine ship at Port Stanley. He evidently feared that the construction crew in some way represented Argentine accession to control of the islands.

Hadow's action raised some question within the Overseas Development Agency of the Foreign Office in London as to the need for a permanent airport on the islands. Despite having signed the Communications Agreement, the British saw no fault in changing its stipulations and eventually approved the construction of a shorter and less expensive runway. Even at its reduced size, the Falklanders identified the airport and air service as merely indications of Argentina's increasing influence on the islands.

The islanders regarded the arrival of any group of Argentines as an incursion of their territory. The negotiator Scott thought this sensitivity might disappear with time; unfortunately, his assumption was not correct. He may have begun to realize this when the planned ceremony to open the new Port Stanley airstrip turned into a trivial fiasco more humorous than important.

The Argentine officials proceeding on the first flight of the air service turned out to be Argentine senior military officers in full uniform. Hearing of this, the Falkland Islands' governor, Toby Lewis, was ordered to hoist the Union Jack and appear at the ceremony himself in full-dress gubernatorial regalia. The islanders themselves feared that ceremonially clad Argentines represented a covert invasion, perhaps even supported by the British Foreign Office. The islands' secretary, John Laing felt a demonstration was likely and called out the Marine guard, a permanent detachment of military stationed on the Falklands to maintain order. Scott's hopes that relations between the islanders and the Argentines would improve must have been dampened as this attempt at a positive step forward fell victim to unfounded fears.

This incident in part indicated the problems in negotiations to solve the Falklands' dispute. There were actually three parties involved, the two countries and the islanders themselves. The British government supported by British public opinion, declared that sovereignty should never be relinquished. Their argument for retention of the islands was threefold:

- 1st - Great Britain was first to discover the islands.
- 2nd - British subjects were the sole occupants therefore the doctrine of prescription applied.
- 3rd - Self-determination of the islanders, two-thirds indigenous, dictated British sovereignty.<sup>11</sup>

Argentina's arguments stemmed from their right to ownership as heir to Spanish colonial possessions and to colonize them, the Treaty of Utrecht, the Nootka Sound Accord and their belief in territorial integrity, an interpretation of the wording of Article 2.4 of the United Nations Charter.<sup>12</sup>

The Falklanders themselves play a key role only because the British choose that they should do so. Their plight is a great concern to homeland Britains who believe their right to self-determination can never be abandoned. This feeling is mostly nurtured by the British government, using it as an argument in negotiation but also in soliciting support from the populace.

The events of March and April 1982, leading to the conflict seemed to illogically gather momentum without sufficient cause. In mid March, 1982, an Argentine scrap metal agent, Constantino Davidoff, arrived at Leith, on South Georgia, aboard the Argentine Navy transport BAHIA BUEN SUCESO accompanied by 41 Argentine civilians and 80 tons of equipment. His intent was to remove for scrap the remainder of an old whaling station, abandoned in 1965, honoring a previous contractual agreement with a shipping firm, Christian Salvesen.<sup>13</sup> Davidoff had obtained permission to do so from the British Embassy with the stipulation that the expedition obtain further go-ahead from the British Antarctic Survey base on the island. For some unknown reason, the party failed to contact the British base and in the process of setting up for work one of the workers hoisted the Argentine national flag.

Arguments abound as to the intent (or lack thereof) of

the flag raising incident. One contention is that it was a "...navy-inspired gesture intended as a privation to Britain..."<sup>14</sup> Another view postulates that it was a "...merely spontaneous show of nationalistic verve,"<sup>15</sup> the position earnestly supported by Davidoff. Whatever the content, the British chose to think the worst. They were "put off" by the incident and when Rex Hunt, the British governor at Port Stanley was informed, he immediately demanded that the Argentines get proper authorization and that they take down their flag. They agreed to the first requirement but refused to remove the latter, making one wonder -- had the flag been lowered, there might not have been a war.

Nevertheless, the years of unproductive negotiation between the two governments had established irreversible feelings of mistrust. The British ordered the Argentines to leave and the Royal Navy ice patrol ship ENDURANCE was dispatched to the area.

The dispatch of the ENDURANCE was significant in two respects. It delayed activation of the British Defence Ministry's plan to remove the ENDURANCE from service as part of naval cutbacks.<sup>16</sup> It also greatly surprised the Argentines who, believed there would never be a serious confrontation with the British.<sup>17</sup>

Argentina in fact had developed a plan for an invasion of the Falklands in the late 1960's. This plan was thought to be realistic because of the success of the Indian government's military invasion of Portuguese GOA in 1961. India's operation had taken place without condemnation from other countries leading some Argentines, especially naval officer Jorge Anaya, to believe a similar act, based on territorial integrity, could be carried out in the Falklands. This plan was originally conceived by then Captain Jorge Anaya, who, at the time of the Argentine invasion in 1982, had risen to the rank of Admiral and was the ranking officer of the Argentine Navy and a member of the ruling Junta.

The plan was simple. It included in sequential order a surprise landing on the islands, the removal of all of the inhabitants, their transport to Montevideo and their replacement with Argentine settlers. In a naive comparison with the 19th Century, the Argentines reasoned the British had taken similar actions in 1833!

There is speculation that the ruling Argentine Junta, plagued by internal unrest, economic woes including inflation and a threatened labor strike, had planned to activate the plan sometime between July and October 1982.<sup>18</sup> The unexpected sequence of events in March supposedly caused them to take advantage of this opportunity and launch their operation ahead of schedule.

This idea is denied by General Galtieri, the leader of the Junta. He refused to admit any plan for invasion existed and rejected any idea that public discontent with his military regime prompted the invasion as a diversionary tactic. Galtieri's explanation was that the incident on South Georgia in March sparked the Argentine invasion, with their sole aim to merely shock the British into negotiating more seriously about the Falklands.<sup>19</sup>

When the Argentine intelligence discovered the movement of the ENDURANCE, the Junta responded by diverting the navy auxiliary polar supply ship, BAHIA PARAISO to waters near South Georgia. If necessary, she would come to the aid of the Argentine civilians. A Marine detachment was aboard to carry out this mission and, with the ENDURANCE on its way

carrying its own Marines, the threat of a confrontation on South Georgia became a reality. Two other Argentine ships, the missile corvettes DRUMMOND and GRANVILLE, were sent in support of the BAHIA PARAISO. In Argentina, leave was cancelled for Argentine sailors and a build-up of stores commenced at the major naval and air bases of Puerto Belgrano and Comodoro Rivadavia.

British intelligence noted these actions. Prime Minister Thatcher's cabinet discussed the situation and agreed to send three submarines to the South Atlantic immediately. The cabinet still hoped to avert a confrontation and felt these submarines would provide a sufficient deterrent for any planned Naval actions by Argentina.

The Argentines also acted swiftly. If an invasion was to be successful and relatively unopposed, it could not wait for the British to re-inforce the Falklands' garrison. Two naval task forces were assembled in late March; Task Force 40 would capture Port Stanley, with Task Force 20 in support. Task Force 40 was to gain control of the airport and civilian populace. Rear Admiral Carlos Busser, Commander of the Landing Force, instructed his Marines that their mission should be carried out "without death or destruction if possible."<sup>20</sup> The Argentines were also concerned about the Falklanders and it has been said that a court-martial would be awarded to any Argentine soldier injuring a civilian.<sup>21</sup> The Argentine hope was to quickly overwhelm the British defenders by sheer advantage in numbers.

The Task Force proceeded south on 28 March. Nineteen U.S.-built LVTP's were to be the primary landing craft and were embarked aboard an LST. But weather became a problem, the Argentine ships ran into heavy seas set in motion by 40 knot winds. The speed of the ships had to be slowed and the time of the landing delayed by one day.

Any thought of a surprise invasion was negated by a series of events which alerted the British garrison on the island. The LVTP's were embarked aboard their carrier at night to avoid detection but the event was either leaked to or discovered by the Argentine press which immediately published the occurrence.<sup>22</sup> The movement of the Argentine fleet was also discovered and Governor Hunt was appraised of the situation. In a classic of British wit and understatement, he informed the Royal Marine officers in charge of the Falklands' detachment of the impending invasion with the words, "It looks like the buggers really mean it." The Argentines also abandoned the use of emissions control procedures enroute and resorted to full power ship-to-ship broadcasts a day before the invasion, making their movement and intentions easy to interpret.<sup>23</sup>

Once the Argentines began their invasion, on April 2, British response in the Falklands area could only be directed at delaying the inevitable. The usual detachment of 40 Marines stood as doubled, only because one unit was being relieved on a scheduled rotation. The British were able to delay the progress of the invasion, holding off an Argentine Battalion of approximately 700 men for a period of three hours from the time of the initial landing until they finally surrendered. The British suffered but one serious casualty while the Argentines lost two men.<sup>24</sup>

Meanwhile, the British detachment of 23 men landed from the ENDURANCE on South Georgia was to soon be challenged by the Argentines. The BAHIA PARAISO at Leith with its embarked detachment of 45 Marines, prepared to take control of the island. This was strategically important to the

Argentines for any future control of the Falklands would be difficult if the British could establish a base of operation just 200 miles to the east.

The British detachment's commander, Lieutenant Keith Mills, faced an unenviable task. He had received confusing orders on his mission: on the one hand, he was to shoot only in self-defense; on the other, he was not to surrender.<sup>25</sup> Faced with this seeming contradiction of fighting man's logic, Lieutenant Mills prepared for the Argentine assault.

On the morning of April 3, a reconnaissance flight was conducted over the island by an Argentine Alouette helicopter. The British must have been amply camouflaged, as the flight returned reporting no indications of British movement. Captain Alfredo Astiz, the Argentine commander radioed news of the Falklands surrender and urged the British detachment to do the same. With no response, he proceeded with his own small invasion. Argentine Marines were transported to shore, 15 at a time, by Puma helicopter. The second wave was about to be landed when the British troops opened fire, downing the Puma. Two Argentines were killed in the crash and the aircraft destroyed.

The Royal Marines also opened fire on the support ship GUERRICO, hitting it on her port side with three anti-tank missiles and small arms fire.<sup>26</sup> The British pursued their defense with great fervor, holding off a superior size force for two hours before surrendering. For his efforts, Lieutenant Mills received the Distinguished Service Cross.

With the events of April 2 and 3 1982, the seventeen years of attempted negotiations collapsed. Two skirmishes had already occurred and the major battle was soon to come.

The history of the Falklands/Malvinas shows these islands to have inexplicably created problems of greater intensity than their worth. Early explorers and adventurers who lived there thought the place a cruel and unforgiving wasteland, but still two countries haggled for centuries over their possession. From their discovery, these islands seem to have been a catalyst for chest-heaving nationalism on the part of both Great Britain and Argentina. To the Argentines, the British took what was rightfully theirs; to the British, years of inhabitation by a handful of British descendants validated their claim to islands 8,000 miles from British shores.

Actually, the islands represent nothing of worth to either side; therefore, they are nearly irrelevant as territory in the dispute. What is important is that they have evolved into a symbol of national honor for both sides and symbolism in world conflicts often transcends strategic or economic worth.

The early confrontations of British and Spanish and later British and Argentines, as well as years of half-hearted negotiation sparked by constantly changing political importance, were preludes to an unexpected war. Early confrontations were maritime in nature but the latest and most serious brought into play the three prominent aspects of conventional warfare; air, sea and land forces.

Of these, some of the most intense encounters, the most damaging events for both sides and many of the keys to victory are found in the air war. The Argentines did not pursue a ground defense of great intensity and the sea battles expected by the British never materialized.

A chronology of the air war follows. It accounts for all aspects of offensive air operations on both sides;

tactical jet, fixed wing support and helicopter support operations. It illustrates the constraints on warfare imposed when the conflict is of a sudden nature. Both combatants found themselves in a "come as you are" battle they didn't expect and, therefore, had to fight with what was available to them at the time.

This required much guide on the part of both sides. They modified the available aircraft to fit their immediate needs. they used some aircraft in other than the intended employment to alleviate shortcomings. This ingenuity was complimented by an unrelenting resolve on the part of both combatants to secure victory.

#### CHAPTER 1

#### Historical Background

#### Footnotes

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#### Chapter 2

#### The Air War - Summary and Commentary

#### Initial Action

The Argentine Air Force initiated the pre-conflict air action with C-130 reconnaissance flights over the islands in March 1982. Later the Argentines used not only C-130's but B-707's, Lear Jets, Fokker F-27's and P-2 Neptunes all in a reconnaissance role unsuitable to the design of the aircraft. They also had S-2 aircraft, more combatable with

this mission, but they were not used extensively because of unreliable radar. "Reconnaissance aircraft" were assigned to Air Exploration and Reconnaissance Group-1, significant because it was formed in April, after the British Task Force was already enroute to the South Atlantic.<sup>1</sup> The work of the group continued throughout the war both in reconnaissance and pathfinding roles. One C-130 and one Lear Jet were lost to Sea Harrier fire while attempting to survey the British fleet. Several B-707's used in a deep reconnaissance role were also intercepted but not fired upon by Sea Harriers as the British ships transited the Atlantic.<sup>2</sup>

On April 3, the first helicopter action in the war occurred, again initiated by the Argentines. They used the Puma for troop inserts on South Georgia with a Navy Alouette conducting pre-assault reconnaissance. This Puma was the first casualty of the war, succumbing to small arms fire from Royal Marines. Two Argentine Marines were killed in the action.<sup>3</sup>

Throughout April, Argentine transports, mainly C-130 Hercules, flew continuously to build up the size of the force and the amount of equipment on the Falklands. Their efforts were highly efficient. An aircraft landed at the Port Stanley Airfield every two hours with turnarounds on the ground taking only 30 minutes.<sup>4</sup>

OPERATION PARAQUAT, the British plan to re-take South Georgia brought the first British air action and also her first aircraft losses. On April 21, two Wessex HU.5's landed SAS patrols on Fortuna Glacier. Severe weather necessitated the extraction of the patrol, the following day; however, both Wessex were lost while attempting to take off in white-out conditions. In continued deplorable weather to include 100 mph winds, another Wessex, nicknamed "Humphrey", successfully made three trips from its ship, HMS ANTRIM to the Glacier and recovered the reconnaissance party.

The work of "Humphrey" was not done. On April 25, she commenced the search for, and successfully discovered, the Argentine submarine SANTA FE. After dropping two depth charges, three additional helos joined the action with two Wasps from the ships ENDURANCE and PLYMOUTH damaging the submarine with wire guided missiles.

"Humphrey" continued in action by putting troops ashore on South Georgia. The Argentines were to have their revenge however, as later in the war ANTRIM would be hit by air attacks with "Humphrey" being pelted by fire from an A-4 Skyhawk.<sup>5</sup>

#### VULCAN RAIDS

Another British initiative, and one showing their talent for improvisation, was the use of the Vulcan for bombing attacks primarily directed at the Port Stanley air facility. These attacks originated from Ascension Island, the British "stationary carrier" in the Atlantic. The flight from Ascension to the Falklands was 3,800 miles and required extensive in-flight refueling from Hadley Page "Victor" aircraft. The British, however, had not exercised aerial refuel of the Vulcan since 1967 and much of the probe hardware and interior plumbing had deteriorated over time.

Ten Vulcan B-2's were selected from available assets and hastily but successfully prepared for their mission. Spare parts were found to be a great problem. The solution was "cannibalization" from other Vulcans, including museum pieces. Five of the originally selected ten aircraft were assigned to Falklands' service and the others retained as backups. These five were outfitted with inertial navigation

systems purchased from British Airways. They were also modified to accept an electronic countermeasures pod used to jam Argentine anti-aircraft artillery radars. Crews from the Royal Air Force were specially selected for the mission. Thus, within five days of the inception of the plan to use the Vulcans, the pilots were actively engaged in bombing and refueling training.

The first two Vulcans arrived at Ascension on April 29. Their operations, code-named BLACK BUCK began on May 1. The flight from Ascension to the Falklands required ten Victors for refueling, the last "plug-in" occurring 300 miles from the Falklands to insure the capability to fly a good portion of the return trip without refueling. Additionally, the aircraft would have the fuel to divert to Brazil in case of difficulties. Four additional refueling engagements were necessary on the return trip and the Victor tankers also had to pass fuel between each other to insure rendezvous with the bombers and their own return.

BLACK BUCK 1 was intended to be a two bomber mission; however, the primary aircraft was forced to abort and the reserve completed the mission. The vulcan carried 21 one thousand pound iron bombs and flew a high, low, high profile, proceeding to the area at 25,000 feet, dropping to 250 feet to avoid Argentine radar and then climbing to 10,000 feet for bomb jettison. The first bombing of Port Stanley airfield took place at 4 A.M. on May 1, with only one of the 21 bombs scoring a direct hit on the runway. The British Vulcan pilots had to reach an acceptable level of skill in both aerial refueling and bombing with only three weeks to train. They had evidently become proficient in refueling but still lacked the skills necessary to bomb a target effectively at night.

The second BLACK BUCK raid took place on May 4, with a slightly different profile. The aircraft ingressed at 16,000 feet and dropping its payload from that altitude. These bombs had a more scattered pattern and damage to the runway was not discernible. The third raid, scheduled for May 13, was aborted due to poor weather enroute.

After the first BLACK BUCK raids, the British became concerned with the Argentine radar on the Falklands. They again modified two aircraft (reserves in Great Britain) to handle at first the MARTEL AS.37 anti-radar missile and then the Naval Weapons Center - Texas Instrument AGM-45A Shrike. The latter was chosen as it had proven itself during Viet Nam, while questions arose as to the former's ability to function after an eight hour flight at 25,000 feet.

Planned attacks on Argentine radar were to take place on May 28, May 31 and June 2. BLACK BUCK 4 was aborted due to damage to the Victor refueler's probe. BLACK BUCK 5 arrived in the target area and Shrikes were fired. However, the Argentines had resorted to a successful tactic of the North Vietnamese: after detecting the inbound aircraft on radar, they simply shut down the radar negating the ARM's effectiveness. Any damage inflicted by the Shrikes was never verified. BLACK BUCK 6 also encountered refuel probe problems with the tip of the Vulcan's probe breaking off during the attempt to engage the drogue. The Vulcan had to divert to neutral but anti-Argentine Brazil where the aircraft and crew were delayed a week and the Shrike confiscated.6 The last BLACK BUCK raid, on June 11, again had the airfield as target with unreported results.

There are mixed opinions as to the purpose or success of the Vulcan raids. To the British, the raids were fruitful, especially the first, in which the airfield at

Port Stanley was cratered. They believed that the Argentines intended to operate Mirage III's and perhaps Super Etendard's from the airfield and the cratering by the Vulcans iron bombs prevented such use. Had the Mirages operated from Port Stanley to carry out its intended mission of intercepting the Vulcans<sup>7</sup>, substantial loss of the bombers may have been incurred.

However, the success of BLACK BUCK can be at best described as minimal. The seven attempted missions included three aborts, three of undetermined results and one of minimal success (the first). The runway was continually used by Argentine C-130's until the end of the war. The Argentines would leave the runway covered with piles of dirt during the day causing British intelligence to surmise that repairs were still in progress. This deception misled the British as to the condition of the airfield and the success of their raids.

The most critical judgment of the use of the Vulcan centers on the argument that their use was "...largely to prove [the air force] had some role to play and not to help the battle in the least."<sup>8</sup> This illustrates the practice of armed services to actively seek a "piece of the action" when a conflict arises, even if their capabilities or mission are not compatible with the circumstances of the conflict. Using BLACK BUCK as an example shows the effects of this practice can be trivial and the results not worth the effort involved.

#### A HARRIER WAR

The performance of British Harriers has been highly praised and publicized. The versatility of this aircraft solved one of the greatest problems facing the British: the provision for fleet air cover. Protection of the fleet was most worrisome as the Royal Navy had, because of budget cuts, relinquished a need for large carriers and the airborne early warning/fighter support that could be provided by the large platforms. The British had pursued this program from the mid-sixties, with Jon Knott, Defense Minister at the time of the Falklands crisis, a staunch proponent of the reductions.

Justification for the tailoring was not only monetary but linked to perceptions of British strategy. The possibility of Great Britain ever undertaking a conflict outside the range of their own land-based air cover (without allied support) was considered extremely remote.<sup>9</sup> The future of the Royal Navy would be concerned predominately with her NATO role, particularly as an anti-submarine warfare force against the Soviets.

Lacking carrier support left the responsibility of fleet defense with the Sea Harrier, and the Royal Navy had only thirty-four of these aircraft. They were able to transport twenty-eight of these to the South Atlantic. The British, and reasonably so, feared the superiority in numbers of the Argentine air assets, estimated to be between 150 and 200 aircraft<sup>10</sup>; however, they were limited in the possible alternatives to increase the number of tactical aircraft in the South Atlantic.

Their solution was the conversion of the Royal Air Force's Harrier GR-3's. This aircraft, designed for a close air support role, was not outfitted as an air defense weapon system. They were, however, in the process of being phased out so were readily available for modification. An air-to-air weapon capability had to be incorporated. This was accomplished by installing hardware to accommodate the Sidewinder on the outboard pylons. However, the most rapid

method to make the wiring modification left the GR-3 incapable of carrying any other weapon system.

The GR-3 inertial navigation system was also unsuitable for operations on the pitching deck of a ship, for accurate alignment was impossible. But again British ingenuity came to the forefront. Ferranti, the manufacturer of the original system, quickly developed a reference system named FINRAE which would assist the GR-3 in shipboard alignment. This system was merely an aid, but not the cure for this problem. The GR-3 was now able to depart the ship and return safely but pilots still had to rely on the compass and time/distance checks as well as rudimentary weapon-aiming to carry out their mission. The exact number of GR-3's that were modified has not been specified; however, a total of twelve can be accounted for as reaching the Falklands, although four of those arrived after hostilities had ceased.<sup>11</sup>

The Sea Harrier itself was not without problems in its role of fleet defense. Its pulse radar was designed to find the Russian Bear at altitudes of 5,000 feet or more and was not suited to acquire low flying aircraft over water. When flying over land, ground clutter also rendered the radar useless. Furthermore, acquisition required a cue from an additional source (airborne early warning) and the British did not have this capability. Harrier pilots did employ a look-down, shoot-down tactic but they did so by visually acquiring the target and not using radar.<sup>12</sup>

#### ARGENTINE TACTICS

The Argentines quickly realized after their first attacks on the British fleet that they would have to fly low and fast if they were to survive the threat of anti-aircraft guns, missiles and Harriers with their AIM 9-L's. Above 50 feet, the pilots felt they could be shot down. However, when they dropped below 50 feet, their bombs did not have time to arm. Even at 50 feet salt spray blocked the ability to see through their gunsights. To overcome this, pilots drew two lines on their windscreens, bracketing the ship between the lines on ingress and releasing their bombs as the ship passed under the nose of the aircraft.<sup>13</sup> They also proceeded inbound at nearly 500 knots a speed which made accurate bombing extremely difficult but also increased their chances of survival for pilot and aircraft.

The Argentines concentrated their air planning efforts against aircraft carriers, logistics support ships, ships close to land, enemy aircraft and finally frigates and destroyers.<sup>14</sup> Their attack aircraft were armed with iron bombs in the case of the A-4, Mirage V and Canberra, and Exocet missiles in the case of the Super Etendard. The British concentrated, as previously mentioned, on destroying Argentine aircraft and were armed with the AIM 9L air-to-air missile.

These priorities gave the British the edge as the Argentine aircraft, especially the often used A-4 heavily laden with bombs and fuel, were not configured for an air engagement with Harriers outfitted for such encounters. Argentine Navy A-4 pilot, Captain de Corbeta Alberto Jorge Phillipe, described their predicament as follows:

We found ourselves in a disadvantage; it was impossible to combat against the Harriers. Not because they were tremendously superior to our A-4's but because we carried a heavy cargo of bombs and fuel on a clean mission.<sup>15</sup>

The Argentines attempted to use Mirage III's in the

escort role, but this proved to be unsuccessful. This aircraft is best suited for maneuvering at high altitude while the Harrier is more efficient below 10,000 feet. Tactics in the Falklands saw Mirage III's operating at 20,000 feet or more while attempting to provide cover for attack aircraft proceeding to the target at much lower levels. With the attack aircraft they were supposed to cover flying low, the Mirage pilots were forced to descend into the lower regime most favorable to the Harrier to carry out their fleet defense mission. When they did so, the British took full advantage of the situation. A description of an engagement on May 1 illustrates this:

Captain Gustavo Cuerva and his wingman, 1st Lt. Carlos Perona received information from Falklands/Malvinas radar that there were two Sea Harriers at twelve o'clock. Cuerva spotted two Sea Harriers and fired two missiles which missed. The Harriers then curved around and fired their Sidewinders - one exploded near Cuerva causing severe damage.... Perona's Mirage was hit by the missile from the second Harrier and the aircraft exploded into a ball of flames.... On the sixth mission of the day Jose Ardiles was killed in his Mirage by a Sidewinder from another Sea Harrier. As a result of these heavy losses...it was decided to pull the Mirage III's back to the mainland to stand alert for a possible Vulcan attack...16

The Mirage III's utilization was curtailed for the most part after their first costly encounters with the Harrier. They were then assigned to protect the mainland from British Vulcan attack, a largely useless employment as the British felt it in their best interests not to agitate world opinion with any such encroachment of the Argentine mainland.<sup>17</sup>

The distance to the war from the mainland also placed the Argentines at a severe disadvantage. The British carrier strength was limited with only two platforms, the HERMES and the INVINCIBLE, available for the conflict; but these compensated for the extreme distance of the Falklands from Britain. The carriers brought the Harriers closer to the battle and provided a means of refueling and maintaining them which, in part, overcame the Argentine advantage in numbers. The Sea Harriers were able to fly about six sorties a day of approximately 90 minutes each. They also maintained an 80% availability rate<sup>18</sup> attributable as much to the skill of the aircraft mechanics as the durability of the aircraft itself. Fortunately for the Argentines, there existed sufficient airfields on their southern coast to use in prosecuting their attackers. Even with the locations of the most used airfields, San Julian, Santa Cruz, Rio Gallegos, Rio Grande, Ushuaia and Comodoro Rivadavia, Argentine pilots, especially those in the A-4, were repeatedly close to their limits of endurance. A contributory problem was the Air Force's lack of refuelers. They had only two KC-130's in their inventory. Furthermore, three of their aircraft, the Mirage III, Mirage V and Canberra could not accept fuel in flight. They could however, carry external fuel stores, but this reduced the weapons they could carry.

The Argentines were then forced to fly very precise routes as even those aircraft that could refuel were limited in flexibility because of the lack of tankers. This tended to make their attack routes predictable, an advantage to the

Harrier pilots using visual search. The Harriers would wait for incoming aircraft at points on the north and south coasts of West Falkland, landfalls used by the low-flying attackers to check their navigation. More often than not the Argentines flew to these points and the Harriers awaited their arrival.

By far, the most successful Argentine attacks were accomplished by A-4's and Super Etendards. Their tactics differed because of aircraft weaponry and British air defense. The Skyhawks used World War II low level bombing tactics with the idea that numbers were needed to overwhelm the British anti-air missiles and artillery. They modified their approach somewhat with the experiences of the first encounters of the war. The theory prior to the conflict soon changed; initially it was

"imperative to each missileistic frigate - or similar ship - with a minimum of seven aircraft, in order to be able to succeed. [Later]...our modest experience informed us that the most practical, economic and effective attack unit demanded the use of only three aircraft..."<sup>19</sup>

The Etendards, armed with the Exocet missile which could be fired from a stand off position, flew more circuitous routes. They utilized in-flight refuel, path-finding and target identification from the P-2 Neptune followed by a low level attack from twenty miles or more to achieve surprise. Both Skyhawk and Etendard tactics proved successful. Their ability to surprise the British fleet became a great concern for their adversary.

So too was the determination and bravery of the Argentine pilots who flew the missions. The Argentines could expect considerable losses on each attack but this did not seem to quell their resolve. As an Argentine pilot, Major Juan Sapolski recalled:

We knew the prospects of successfully hitting the targets were good but the prospects of returning were dim. So, we could say that the only impulse we had was to strike, strike and strike as many times as we could. This spirit of attack ... was an innate condition, a natural condition, brought about by our sense of duty.<sup>20</sup>

So the setting for the air war was established. The Argentines pursuing the British fleet at low level, the Sea Harriers attempting to protect the fleet with a paucity of air assets.

#### THE AIR ENCOUNTERS

Action May 1

The first encounter involving both air arms occurred on May 1. After the British had bombed Port Stanley airfield and Goose Green airstrip, the Argentines attempted to retaliate. They launched attacks by both Mirage V's escorted by Mirage III's (as previously noted) and Canberra bombers. Grupo 8 de Caza of the Fuerza Aerea Argentina (hereto referred to as FAA) launched six flights of two Mirage III's each to escort Mirage V's. The Mirage pilots faced numerous problems. The weather was marginal and the pilots were concerned with the runway length at Rio Grande, the origin airfield. Normally the runway for the Mirage is 2500 meters and is equipped with arresting gear. The runway at Rio Grande was only 2000 meters with no arresting cable installed. The mission profile for the M-III's called for

ingress at 25,000 feet, giving them twelve minutes maximum time on station allowing for 50 knot winds enroute. Winds encountered on May 1 were up to 110 knots thus making their return trip difficult.<sup>21</sup>

Despite these shortcomings the launch was successful. The Mirages coordinated with Argentine radar on the Falklands as they approached the islands. Falklands radar identified enemy aircraft four times enroute and each time the Argentine aircraft passed above the Harriers. Captain Gustavo Cuerva and his wingman, 1er Ten. Carlos Perona, were the first of their flight to encounter the British aircraft. Their description of the battle has previously been related (see Footnote 16). They fired two MATRA R.530 missiles which missed their targets. The British Sidewinders were more successful, destroying both Argentine aircraft. Lt. Dave Smith of the Royal Navy's 800 Squadron based on the HERMES explained the failure of the Argentine missiles. The MATRA's utilized were semi-active, radar guided AAM's. Once launched, they must be guided to the target by the firing source, usually with the aircraft's fire control radar.<sup>22</sup> In this case, "the Argentine pilots broke away rather than continuing to illuminate their targets until impact."<sup>23</sup> This engagement was felt by the British to be "the closest thing to a dog-fight in the whole operation."<sup>24</sup> After this, attacking Argentine aircraft jettisoned their bombs to increase maneuverability and turned away rather than engage the Harriers.<sup>25</sup>

Missions were also flown on May 1 by Canberras from 1 Escuadron de Bonbardeo in an attempt to bomb the British Task Force. Captain Alberto Boigorri was on the first Canberra mission. Six aircraft departed Trelew, on the southeastern coast of Argentina, in two flights of three aircraft each. He related his experience that day as follows:

About 250 miles from the target the #3 in the flight called a missile headed my way - I looked toward the right and saw the missile hit the #2 aircraft... The bomber continued off my right wing with an engine in flames as it started down - I saw them both eject before it hit the water. Above I saw the Sea Harrier looking to see whose turn it was next! I broke right and told my #3 to break left ... I saw the Sea Harrier above us but apparently it could not see us on its radar screen so we got out of there. After making sure the Sea Harrier was not around, we turned around and tried to locate the pilot and navigator but we could not find them - they were lost.<sup>26</sup>

As a result of the action on May 1, the Canberras, like the Mirage III's, found the maneuvering against the Sea Harriers to be beyond their capability. They changed tactics, and were subsequently employed mostly at night against the ships farthest from the islands dropping their 1,000 pound bombs from 500 feet.<sup>27</sup> This tactic was, for the most part, unsuccessful.

Action May 4

After May 1, the fixed-wing air war was basically a three aircraft affair with A-4's and Super Etendards pitted against the Harrier. The British first felt the sting of the Argentine assaults on May 4, when the destroyer HMS SHEFFIELD was sunk. A Neptune P2V ASW patrol aircraft detected the electronic emissions of a destroyer 100 miles

south of Port Stanley and approximately 380 miles east of Rio Grande Naval Air Base. Two Super Etendards, each armed with an Exocet missile and flown by Captain de corbeta Augusto Bedacarratz and Ten. de navio Armando Magora launched from Rio Grande. They flew a straight course to their target at low level, refueling fifteen minutes into the flight. The weather deteriorated as they progressed with the ceiling reduced to 500 feet and the visibility only 300 feet. Forty-five minutes into the flight they received a target update from the Neptune. Two medium sized ships and one larger one were 155 miles away. The Neptune signaled the Etendards when they were within proper range to pop-up to radar acquiring altitude to detect and lock on the ships. The Etendard's Agave radar designated the target and passed the range to the Exocet before the attack. Once launched, the missile tracked to its target using its active homing head.

The missiles were fired at a range of between 20 and 30 nautical miles, with one penetrating the side of the SHEFFIELD. The SHEFFIELD was using a satellite communications system to protect against radio direction-finding by the Argentines. Unfortunately, use of this radio precluded use of its countermeasures warning gear which had momentarily been turned off. Consequently, the SHEFFIELD did not activate a CHAFF screen as did her escort as the Exocet approached.<sup>28</sup> The missile penetrated the SHEFFIELD damaging vital electrical power, communications, lighting and fire fighting equipment. Strangely enough, the warhead failed to explode. The residual fuel from the rocket motor is thought to have caused the fire which eventually led to the destruction and loss of the ship.<sup>29</sup>

The sinking of the SHEFFIELD by Etendards exemplified the ingenuity of the Argentine Navy; this occurred not so much in the planning of the mission but because they were able to operate the aircraft at all in the conflict. The Argentines had been training in the Etendard since 1980. Their pilots had utilized French flight trainers between November 1980 and August 1981, but they had received only 45 hours of actual flight time in the aircraft. Between August and November 1981, five Super Etendards and five Exocets were shipped to Argentina; only in December 1981 did Argentine pilots begin flying the aircraft. They flew mostly test flights during the first two months of 1982. Finally on March 30, the commander of the first Etendard Squadron, Captain de fragata Jorge Colombo, was ordered to make the weapons system operational. The task was not easy as France, in agreement with the sanctions of the European Economic Community against Argentina, had terminated export of the aircraft along with associated support. The French technicians in Argentina were no longer allowed to advise the Armada. Captain Colombo and his men were required to interpret French manuals to integrate the Exocet. Even though they had flown in France, none of the pilots had ever operated the Super Etendard's attack system.<sup>30</sup>

The British also suffered the loss of their first Sea Harrier on May 4. Lt.Cdr. "Nick" Taylor was shot down by ground fire while attacking the Goose Green airstrip. The Argentines had been using the airstrip since April as an operating base for their PUCARA aircraft.

Action 9-12 May

Although primarily utilized in the air-to-air role, Sea Harriers were also used against surface vessels. The British had announced a 200 mile radius maritime exclusion zone around the Falklands to become effective on April 12.

On May 1, the blockade was expanded with the declaration of a Total Exclusion Zone (TEZ). In the interests of protecting the fleet and enforcing the Total Exclusion Zone, Sea Harriers strafed and bombed numerous vessels utilizing both cannon fire and bombs.

On May 9, the Argentine commercial trawler NARWAL, also referred to as an intelligence gathering ship by British sources<sup>31</sup>, was strafed and sunk by a Sea Harrier piloted by Flight Lieutenant David Morgan. The trawler had been sighted by a British frigate ten days earlier and warned to leave the area. The NARWAL remained in trace of Her Majesty's fleet, evidently for intelligence gathering purposes, and Morgan was ordered to engage her. He bombed and strafed the target, then boarded the craft with a detachment of Royal Marines transported via helicopter. Thirty Argentines were found aboard, among them an Argentine Navy lieutenant commander believed to be an intelligence officer.<sup>32</sup>

On May 10, another Argentine vessel, the RIO CARCAMIA, moored in Port Rey, was attacked by Sea Harriers and had to be abandoned. The ship was re-attacked on May 16, and sunk. Another ship, the transport BAHIA BUEN SUCESO, which had run aground in Zorro Bay, following a severe storm, was considerably damaged by attacking Harriers.

On May 12, the Argentines resumed the offensive, when two waves of A-4 Skyhawks attacked HM's ships BRILLIANT and GLASGOW. These ships were deployed together as part of a revised plan for ship defense. A type 42 destroyer, such as BRILLIANT, was armed with the Sea Dart anti-aircraft missile with an effective range up to 40 miles. It was, however, extremely vulnerable to low level attack which this system could not detect. The type 42 was therefore paired with a Type 22 destroyer such as GLASGOW armed with the Sea Wolf missile to cover the critical low level area.

The Argentine attack proved both the wisdom and weakness of this defense. The two British ships were stationed on the gunline on the east side of the islands. They were bombarding the shore when attacked. The four Skyhawks came in low and broke into pairs aiming at both ships. Sea Wolf missiles from the BRILLIANT immediately destroyed two aircraft. The third aircraft inexplicably flew into the sea. The fourth then climbed from the encounter and disappeared into the clouds. The Sea Wolf's powers against the low level attacker had proven successful. One hour later, however, a second wave of A-4's attacked. They were below the umbrella of the Sea Dart. Sea Wolf was activated but the system "reset and refused to fire."<sup>33</sup> Anti-aircraft machine gun fire cracked from the deck but the penetrating Skyhawk released three bombs which miraculously hit the water and bounced over BRILLIANT. A fourth smashed through the hull of GLASGOW, passed through the ship and fell in the sea without exploding.<sup>34</sup> GLASGOW began to take water and had to move to the east for temporary repairs. The British had found the Sea Wolf was very effective in engaging single targets, but its computers were overloaded by an onslaught of four aircraft or more.

Action May 21

The British made the initial landing on the western side of East Falkland at San Carlos Water on May 21. This was also a day of extensive air attacks by the Argentines, and a day that proved expensive in terms of losses on both sides.

The narrow inlet at San Carlos with its surrounding high ground served as a useful refuge for the British

ships. It was particularly effective against the Super Etendard whose radar could not "see through" the clutter caused by the hills. To defend the landing, the British established a line of defense in Falkland Sound which took the brunt of the attack from the "Argies".

The attacks began at mid-day on the 21st, well after the British had commenced their landing (H-Hour 210639Z May 82). The first casualty was the County Class Destroyer ANTRIM which was bombed and strafed, along with her famous Wessex, "Humphrey".

The second attack of the day was by FAA Skyhawks which attacked HMS ARGONAUT assigned to take the crippled ANTRIM's position in the mouth of San Carlos Bay. The wave of seven Skyhawks approached from the south. The ARGONAUT's radar picked up their ingress and a Sea Cat AAM was fired which downed one of the A-4's. The six other Skyhawks released their bombs. The action has been described thusly:

Incredibly, these hit the water and bounced over the ship. Every man on the upper decks was deluged with water. [An astounded British seaman] watched a black object hurtling over his head, it "almost parted me hair."<sup>35</sup>

Ten bombs fell in the sea around ARGONAUT, but two struck their target without exploding. The ARGONAUT went dead in the water with serious damage to the boiler room and Sea Cat magazine section. She had to be towed to the relative safety of San Carlos water after dark.

The proceedings of May 21 also involved the first introduction of the Argentine Navy A-4Q's in the battle. The flight was led by Captain de Corbeta Alberto Philippi. They flew at 27,000 feet, unescorted, to within 100 miles of the Falklands and then descended to 100 feet. The pilots did not know the exact position of the ships; however they utilized Cape Belgrano and Soledad Island as navigation checkpoints and the flight proceeded northeast toward San Carlos. As they approached, they spotted British ships to the west of San Carlos in Falkland Sound and began their attack. Captain de Corbeta Philippi described the events:

...At 1,000-1,500 meters from the target, I ascended to 300 feet and I concentrated to arrange the crosshairs of my sight on the stern, without thinking of anything else, it was aligned. When the center of the crosshairs was superimposed on the target, I pressed the button that launched the bombs. I increased speed and commenced a violent turn to escape to the right, descending to once again fly just above the waves... Meanwhile, I listened to the voice of my fellow pilot Jose Cesar Arca shouting, "Very good, sir." I looked over my shoulder and saw the frigate with much smoke in the stern...<sup>36</sup>

Each plane attacked the same frigate, which turned out to be the ARDENT. Their bombs struck the stern of the ship; again they failed to explode but caused severe damage to her anti-aircraft missile systems. The damage was irreversible and the ship eventually abandoned, the second sunk by the Argentines. <sup>37</sup>

However, despite limited successes, the chances for success of the Argentine pilots were growing increasingly slimmer. If they did not face anti-aircraft missiles and gunfire, the Harriers confidently awaited their intrusion, with their Sidewinder missiles already proving to be an

effective weapon. The British launched the VSTOL aircraft at 20 minute intervals throughout the day and, despite this successful surge operation, their limited numbers could not totally prevent the continued intrusion of Argentine attackers. They could however, prevent their departure. A costly war of attrition then ensued, one which took its toll on Argentine pilots and aircraft.

Captain de Corbeta Philippi's flight was successful on ingress but not so fortunate as they attempted to depart the area. As they followed the same route as their ingress, a flight of Harriers intercepted them. Philippi recounted:

I immediately ordered external cargoes ejected and to escape with the hope of reaching refuge in the clouds that were in front of us. But I felt an explosion in my tail and the nose of the airplane elevated uncontrollably; I needed the support of both hands on the stick that was unresponsive. I looked to the right and saw a Sea Harrier at 150 meters coming in for the kill. ...I reduced speed [and ejected]. I felt a forcefull explosion when the canopy ejected, and, immediately there was a forceful pain in the nape of my neck. My final thought before passing out was, "I am falling like a rock."<sup>38</sup>

The pilot of the second aircraft was shot down and lost, while the third was hit by small arms fire and had to eject, to be rescued by an Argentine helicopter, one of the few located on the islands.

Captain Philippi landed in the sea 100 meters from the coast and swam to the shore. He walked for two days before finding refuge with Tony Blaile, a New Zealander and local ranch manager. Blaile contacted the Argentines at Puerto Argentino (Port Stanley) by radio and Philippi was rescued by an Air Force helicopter.

Accounts vary as to the number of Argentine aircraft lost during the raids of May 21 with totals ranging between fourteen and sixteen aircraft.<sup>39</sup> Sea Harriers claimed eleven planes shot down, attributing part of their success to the predictable routes of the Argentines were forced to fly because of previously mentioned navigation problems. On the other hand, the Argentines had sunk one ship and damaged several others. They had little difficulty in finding the British ships which were bracketed in Falklands Sound and San Carlos water.

Action May 23

Air action was curtailed for one day as bad weather set in but it rose again to full fury on May 23. The Armada Argentina (Argentine Navy) returned to the fight with five of Captain Philippi's eight Squadron aircraft remaining after the combat pf May 21. FAA aircraft, including Mirages and Skyhawks also joined the action.

The Armada's Skyhawks changed their tactics slightly, utilizing an Air Force KC-130 to refuel en route to the islands. They proceeded north up Falkland Sound as a flight of four and split into flights of two simultaneously attacking HM's ships ANTELOPE and BROADSWORD. The aircraft were subject to a rage of crossfire as now both shipboard and land based positions fired as they approached. The first wave of aircraft were repelled by anti-aircraft fire and one was downed by a Sea Cat missile as it turned away. The second wave was able to penetrate the British defenses and successfully hit both ANTELOPE and BROADSWORD. ANTELOPE

was hit by two bombs, neither of which exploded but each of which caused considerable damage. One of the attacking A-4's was downed by 20mm oerlikon anti-aircraft cannon fire, the aircraft striking the aftermast of the ship as it attempted to pull off after being hit. The other Skyhawk made a successful attack and returned safely to its base.

The fate of the ANTELOPE remained uncertain. A disposal team was brought in to try to diffuse the unexploded bombs. In their attempt, the first bomb detonated, killing one of the ordnance crew. A tremendous fire broke out which eventually led to explosions in the magazine sections. The resultant damage was beyond repair and by the next morning, the ANTELOPE began to settle into the water.<sup>40</sup>

British accounts put the number of FAA and Armada losses at seven for the day. Still the persistence of the Argentine pilots and their ability to penetrate the defense greatly alarmed the British. As of May 23, they had lost three ships and incurred considerable damage to others. Continued losses such as these would seriously lessen their chances of success in the campaign.

The major area of concern among the British staff was the placement of the carriers HERMES and INVINCIBLE. They had been operating nearly 200 miles to the east of the Falklands at the edge of the exclusion zone so that their position would be difficult to reach or locate. Their safety was considered paramount, as a loss of either would give the Argentines a great advantage in the air war. Their distant location however, left them with less time on station and the constant changing of aircraft at combat air patrol stations left holes in the British defense. The alternative supported by some commanders was to move the carriers closer to shore, giving the Harriers more time to loiter while decreasing the time it took them to react to enemy attack. Rear Admiral John Woodward, the Task Force Commander, considered the change but decided to continue with the plan to protect the carriers by keeping them further away from the Falklands, their safety remaining his first priority.

Action May 24-25

May 24th brought further attacks by Mirage V'S and Skyhawks. Captain Horacio Gonzalez, a Dagger pilot remarked that his run on San Carlos "was like running a gauntlet... he brought his flight of four through fifteen ships, dodging between them after dropping bombs to avoid anti-aircraft fire."<sup>41</sup> The most successful attacks of the 24th were made by Skyhawks who, on one pass, hit both the SIR GALAHAD and SIR LANCELOT, amphibious logistics ships unloading supplies at San Carlos. Again, as often happened, the bombs did not explode and the ships escaped a more destructive fate.

The British claim eight more Argentine aircraft destroyed that day, three each by Harriers and Rapier surface-to-air missiles and two by Bofors anti-aircraft fire.<sup>42</sup>

The following day, a national holiday for the Argentines honoring the overthrow of Spanish authority, brought extensive attacks from the FAA and Armada. Their attacks seemed more purposeful as specific targets had been selected. The pilots did not merely fly to an area in the hopes of spotting any ship, any ship, but had pre-selected targets.

Their first target was the British missile trap - the Type 42 and Type 22 destroyers paired together as the outer

ring of the British defense. Destruction of these would open the area for attacks both on other ships and on the beachhead. COVENTRY and BROADSWORD were on station on the 25th, with the former experiencing early successes that day in shooting down three Argentine aircraft including two Daggers.

At approximately 2 P.M., the air-raid warning signaled the COVENTRY of inbound attackers. The Sea Dart radar and computer momentarily provided a firing solution only to lose it. The Argentine Skyhawks had again dropped to wave-top level below British radar means. They had flown a route over West Falkland hiding among the radar cover caused by the hills, further confusing radar operators.<sup>43</sup> The Skyhawks sped from the direction of Pebble Island and the three automatic weapons on the destroyer went into action. Flight Officer Jorge Neuvo described his attack on the CONVENTRY:

As we began our run (one minute out at top speed) they fired a missile. I don't know what kind of missile it was; perhaps a Sea Dart because the frigate was of the Type 42 series which turned out to be the CONVENTRY. The missile passed over us at about 900 to 1200 feet. Once I framed the ship in my sight, I saw nothing else for about 30 seconds but I felt something like the impact of cannon fire before releasing my bombs. As we were coming toward the frigate, we noticed that it quickly began to change course 90 degrees. By the time I released my bombs I was 40 degrees off from the ship -- we passed over and noticed three bomb hits on it.<sup>44</sup>

The COVENTRY was desperately trying to maneuver to safety. Unfortunately, this attempt was her downfall as she erroneously moved in front of BROADSWORD's bow negating the Sea Wolf's target solution on the incoming aircraft. Three of the four bombs dropped penetrated COVENTRY's port side and exploded. The ship listed heavily to port, all power was gone and she began to sink.<sup>45</sup>

This attack revealed another weakness in the Sea Wolf missile system. The Sea Wolf system is designed for self-defense. It achieves its target solution automatically, by computer, prior to launch. The ship must consequently be in position between the attacking aircraft and any other ship it is attempting to protect. It was unlikely that sufficient time would have been available for ships to so maneuver when facing a high speed, low-level attack. In this instance, the attempted maneuver blocked the chance for BROADSWORD to fire and the COVENTRY was lost.

The second planned Argentine mission of the day was an attack on the carrier INVINCIBLE. Argentine reconnaissance had detected a very large British ship heading west towards Falkland Sound. The French had delivered only five Exocet missiles and the Armada had carefully conserved the use of this limited asset. Since their earlier success in sinking the SHEFFIELD, Etendard pilots had anxiously awaited another chance.

Captain de Corbeta Roberto Curilovic and Ten. de navio Julio Banaza departed Rio Grande, their route the longest flown by Argentine attack pilots during the war. They proceeded in a northerly direction to a point that would keep them from detection by the British Task Force. They refueled once enroute and were aided in navigation by a

C-130. The flight passed to the north of the target and then proceeded on a southerly heading to line up for an attack from the east. They correctly figured that the British defense would be more concentrated for attacks from the west; however, their attempt was unsuccessful, as the frigate AMBUSCADE detected their presence with her radar. The fleet was alerted and chaff screens were released. Two Exocets were fired, from fifteen to thirty kilometers away. The chaff screen was effective for those ships so armed. However, the ATLANTIC CONVEYOR, a container ship taken up from trade and converted to a semi-carrier with the installation of a landing platform, possessed no chaff. The ship was hit below the superstructure on the port side. Opinions vary as to whether the missile actually exploded, but a fire ensued and the ship had to be abandoned.

The 25th had seen some of the most damaging combat of the war. The Argentines experienced considerable loss in aircraft and pilots although the total number of aircraft downed was not reported by either side. The British saw the sinking of two of their ships. The Argentines had wasted two of the valued Exocets without hitting the primary target. They did hit the ATLANTIC CONVEYOR, however, which could be considered a carrier as it was used to store Harriers not in service to ease the burden off the HERMES and the INVINCIBLE, Chinook, Lynx and Wessex helicopters. Fortunately for the British, no Harriers were aboard at the time but three Chinook, three Lynx and seven Wessex were lost which greatly limited the flexibility of the ground forces in the subsequent land campaign. Destruction of the HERMES or INVINCIBLE would have been much more damaging but the sinking of the container ship was certainly a difficult loss for the British both in terms of assets and morale.  
[Click here to view image](#)

The 25th of May seemed a turning point in the war. The British were reeling from their losses as were the Argentines. However, neither side sensed the weakening of the other. The British fully expected more attacks of the same intensity, but they did not come. Roughly one third of the Argentine air strength had been lost, with an estimate of over thirty lost by the afternoon of May 25.<sup>46</sup> The effect of the loss of so many pilots was devastating; the cost to morale was equally debilitating. For the most part, the rest of the war saw Argentine attacks of less intensity. Had the Argentines known and been able to pursue the battle as they did on their national holiday, victory might have been theirs.

Action May 30

They did attempt another attack on the INVINCIBLE on May 30, but with unconfirmed results. One Exocet remained of the five which arrived prior to the arms embargo. This time the Argentines planned a new tactic. The Etendard Squadron was already planning the final Exocet mission when as Captain Colombo related: "The higher-ups asked if we had any problem if they added four aircraft from the air force, four A-4s [Skyhawks] to attack INVINCIBLE. They said 'You attack with Exocets and they will follow in and attack with bombs.' ...We said no problem."<sup>47</sup>

They planned to have the Super Etendard with its inertial navigation system lead the Skyhawks to the British ship. After the Exocet was launched, the Skyhawks would follow it in for the killing blows. The plan worked but confusion arose as to what ship was hit, the INVINCIBLE or the already damaged ATLANTIC CONVEYOR.

ler Ten. Ernesto Ureta flew one of the A-4's.

...we flew into the target area just skimming the surface of the sea. The Exocet was launched and the four of us went in together - in thirty seconds we were in the target area. The waves and salt spray blocked much of the view through the windshield so we had to make our own judgment as to the proper release point. Before we could get to the ship, Sea Darts shot down Captains Jose Vasques and Omar Castillo. Alferez Gerardo Isaac and I pressed into the target. The attack was made about 30 degrees off the ship's stern and the bombs were released according to the size of the carrier. After flying directly over and away from the carrier, I made a turn thirty feet above the water and then confirmed the impact of my bomb. A great cloud of smoke had formed and this confirmed that the bomb had hit the carrier.<sup>48</sup>

That evening the Argentine press confidently reported that the INVINCIBLE had been hit. Across the sea however, the British announced otherwise - that the ATLANTIC CONVEYOR had taken more fire and had sunk.

It was a controversy mostly without meaning. The INVINCIBLE remained in service. The air war was nearly over, as the British troops, virtually unopposed by Argentine air now concentrated on the fleet, were making their way towards Port Stanley and final victory.  
Action June 8

Only one more air encounter would occur, eight days later on June 8. Perhaps the fighting that day indicated the desperation on the part of the Argentines as they again resorted to employing the Mirage III in the escort/attack role. The fate of the Mirages had not changed, however, as the Harriers awaited their arrival. Three Mirages out of eight were lost.<sup>49</sup>

The Skyhawks also continued their pursuit of British ships. The weather was extremely poor and rain lowered the visibility a great extent. As the planes proceeded towards Darwin off Falkland Sound, the Harriers attacked. The poor weather conditions made the ensuing encounter between the combatants more confusing and dangerous than usual. An Argentine pilot remarked:

As we bored into attack the ship, I suddenly had to dodge an aircraft coming towards me, climbing to avoid a collision. At that moment on both sides, were two Sea Harriers which launched two Sidewinders, one from each Harrier. The Skyhawk behind me exploded and #2 was hit square in the tail with an explosion that ripped fighter apart.<sup>50</sup>

Although under heavy fire, the Argentine aircraft were still successful in their attacks. HMS PLYMOUTH was struck five times and an LCU (landing craft) from FEARLESS was hit by rocket fire from a Mirage. Most damaging, however, were the attacks on the Royal Fleet Auxiliary ships SIR GALAHAD and SIR TRISTAM. These ships were setting unprotected in Port Pleasant by Fitzroy, there to unload men and supplies for the 5 Brigade push to Port Stanley. Included was a company of Welsh guards awaiting landing and movement to

Bluff Cove, four miles to the north.

The first attack on Port Pleasant took place the afternoon of the 8th. A flight off five Skyhawks attacked, one of their bombs landing directly on the tank deck of the SIR GALAHAD. The guards' mortar platoon was holding there and nearly all were fatally wounded. The damage to the SIR GALAHAD was devastating and she succumbed to the blast and fire and eventually sank. SIR TRISTAM was also hit and two men killed, but the ship itself survived the attack.

The loss of over forty men aboard the SIR GALAHAD was the worst single disaster suffered by the British during the war. Many of the land force were enraged by the circumstances. First, the SIR GALAHAD was allowed to pass from San Carlos to Port Pleasant, on the other side of East Falkland, without an escort. Second, she was allowed to sit there for several hours, unloading in broad daylight a Third, the unloading was of equipment first leaving the men left aboard on a ship highly vulnerable to attack. Major Ewen Southby-Tailyour, a former Commander of the British detachment on the Falklands, was assigned to assist in getting the Welsh guards ashore. When he arrived at Port Pleasant he was "...horrified at the sight of guardsmen still crowded on GALAHAD. He was certain they were in grave danger."<sup>52</sup>

Perhaps the British Navy had experienced so much intense action in Falkland Sound that they thought the Port Pleasant area would be a safe haven. There was little, however, to justify such an assumption. A British Gazelle helicopter had been shot down that very morning while flying from San Carlos to Bluff Cove on a southerly route. The Argentines still had observation posts overlooking the area and Southby-Tailyour, when taking some of the guardsmen ashore in Bluff Cove on the June 6, had taken mortar and artillery fire from Argentine positions. Prudence dictated a safer approach to getting the men ashore. In this case, poor planning led to disaster.

The incident also underlined a major weakness of the British force, its lack of helicopter asset. Had more transports been available, the movement of the Welsh guardsmen to Bluff Cove would have been done by the more efficient helicopter and these men may have never been subjected to the peril they experienced.

#### OTHER AIR OPERATIONS

Although the air war was dominated by the Sea Harrier, the Skyhawk and the Super Etendard, other aircraft were involved on both sides which proved effective in certain situations. The Harrier GR-3's flew a total of 150 sorties against ground targets and were credited with several successes. They were particularly effective when armed with laser guided bombs, employed most often against enemy reinforced artillery and anti-aircraft positions. The Sea Harriers flew ten times as many sorties and lost but three more aircraft (six versus three). All three GR-3 losses were to enemy ground fire, either by SAM or anti-aircraft guns. Sea Harriers were flying more but in a less hazardous environment.<sup>53</sup>

There were several grass landing strips on the islands and these were put to good use by the Argentines. They used the home-built PUCARA ground attack aircraft, T-34 Mentors and MB 339 trainers, armed with guns and rockets, to assist their ground troops. The PUCARA was the most formidable of these weapons systems, hence they became a major target for British Strategic Air Service (SAS) raids, which claimed the

destruction of fifteen of these aircraft.

The PUCARA proved an enduring craft. They were hit numerous times by British small arms fire and by BLOWPIPE SAMS, but were often able to return to their base for repair. They were used to combat British helicopters and shot down two. They also delivered NAPALM against British positions on at least one occasion.

#### HELICOPTERS

The British carried approximately 175 helicopters to the war including the Sea King, Wessex, Chinook, Puma, Wasp, Lynx and Gazelle. Helicopters were initially employed to load ships prior to embarkation and then provided an efficient execution of re-organization (cross-decking) operations enroute to the South Atlantic.

A vital employment of the helicopter was in the anti-submarine warfare role, the Sea King HUS-5 performing this function. These aircraft were usually flown in groups of three in front of the fleet; they thus formed the first layer of defense. The typical sortie lasted about four hours, with the helos dunking their sonar to provide adequate surveillance. Although the Argentines had two submarines available, they inexplicably did not pursue employment of this weapon system which could have been an effective supplement to their air attacks on the British fleet.

The British Lynx was also used quite extensively in the war. It was armed with the Sea Skua missile, a weapon without a complete operational test but one which performed well in the war. Of the three ships fired at by the Lynx, two were sunk and the other badly damaged. The tactic utilized was to approach the ship at sufficient altitude to detect the target with radar off, to close on the target at a lower level, initiate a climb with radar on, obtain a radar lock on the target, launch the missile and then egress. The total evolution was accomplished beyond the range of the ship's anti-aircraft means ensuring the safety of the Lynx.

Other British helicopters were utilized in the following roles: Wasp for general utility; Wessex for transport and some ASW; Puma for transport; Chinook for heavy transport. One unconventional use was the employment of the Westland Scouts in the assault role, carrying Gurkas on their skids in the attack of enemy observation posts.

If the key role of the helicopter was in ASW, its most critical employment was in the CAS-EVAC (medical evacuation) role. This involved not only the most common use in support of the ground troops but also in the rescue of those injured on bombed ships. Any and all available models were used, and many times the response was spontaneous as helicopters flying other missions saw the burning results of successful Argentine attacks. For instance, Sea Kings of 825 and 846 Royal Naval Squadrons responded to the attacks on the SIR TRISTAM and SIR GALAHAD. They winched men from these ships despite billowing smoke and exploding ammunition and then carried the wounded to the CANBERRA for medical treatment. The lone CHINOOK available to the fleet, a survivor of the attack on the ATLANTIC CONVEYOR, flew sixty-four casualties from the SIR GALAHAD in a single flight.<sup>54</sup>

British helicopters were also employed in their standard roles during amphibious operations. On D-Day, May 21, Wessex HU-5's of 845 and 848 Squadrons and Sea King HU-4's from 846 Squadron launched before dawn; they initially emplaced RAPIER SAM firing units, and then participated in the landing of 3 Commando Brigade. These

helicopters flew throughout the day and, in part, overcame a problem of limited numbers with high availability and continuous service. 846 Squadron alone accounted for the lift of nearly one million pounds of equipment and 520 men while using only seven Sea Kings.<sup>55</sup>

In accomplishing the resupply mission, British helicopter units employed a unique tactic to combat their vulnerability to air attack. Each helicopter, with its own maintenance team was dispersed in the valleys of East Falkland and, when called upon, flew a nap of the earth profile, below 100 feet, to bring supplies to the front line troops. This tactic proved effective and a necessary undertaking to counter a most feared Argentine weapon, the PUCARA.

"Humphrey" was not the only nicknamed helicopter of the war. The lone surviving CHINOOK (the others lost with the sinking of the ATLANTIC CONVEYOR) became known as the "Flying Angel" because of the yeoman service it provided. Its small maintenance team, operating with nearly no spare parts and borrowed tools, kept the aircraft in the air until June 23. During the war, the "Flying Angel" transported a total of 1,530 troops, 600 tons of equipment, and 650 POWs. A typical task of the CHINOOK involved "the delivery of three 105mm guns (two internal, one external), eighty-five men and twenty-two tons of ammunition to Mount Kent. This was performed at night, using passive night goggle technique. The mission was carried out despite severe snow showers and enemy fire in the landing area, and a radar altimeter failure on the first return flight. The radar failure caused the CHINOOK to strike the sea, which resulted in some minor damage.<sup>56</sup>

Reports of the Argentine employment of helicopters were difficult to find. All three services, the Army, Navy and Air Force maintained rotor craft including the Alouette, Puma, Chinook, Lynx, Huey and Sea King. The use of the Puma and Alouette on South Georgia has already been related. Sea Kings were also employed by the Argentines during their initial assault on East Falkland; there they inserted men at the Port Stanley Airfield. They then were used as a shuttle service, moving men and equipment ashore and then to more remote locations on East and West Falkland. The aircraft also patrolled the coastline watching for British reconnaissance parties.

The battle for the Falklands ended with the surrender of Port Stanley on June 14, 1982. The air war had been intense and the low level tactics of the Argentines, pursued with the great courage and unrelenting resolve of Argentine pilots, proved to be a formidable threat to the Royal Navy. Despite their lack of adequate escort aircraft for their attack sorties, the Argentines were able to penetrate the ill-equipped British fleet defense with sheer numbers. British losses neared a level which seriously endangered their chances of recapturing the Falklands. Had some of the Argentines' unexploded bombs detonated, the British may well have been forced into a quest not for victory but for negotiation.

Troops were warring on the islands, but the nature of the conflict seemed to separate rather than integrate air and ground operations. Helicopters were the major integrating craft, but defense of the fleet pulled the Harrier away from its ground support role.

The day of May 25 was the turning point in the air war. The Argentines stood down to regroup having incurred serious losses in pilots and aircraft. However, they did

not realize the low state of morale of the British. Had they pursued more attacks, (such as the one on June 8) at the end of May, the serious doubts that had already arisen in the British command may have led to a change of position.

## CHAPTER 2

### The Air War: A Summary and Commentary

#### Footnotes

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### CHAPTER 3 An Analysis

The British accomplished their objective of re-establishing control of the Falklands with the surrender of General Mario Menendez, Commander of the Argentine troops on the islands, on 14 June 1982. The British had proven that they were collectively a nation that adhered to principle. No territory of theirs would be taken by force. When this principle was violated, immediate action had to be taken. The war was prosecuted by the military arm. The morale of the military was boosted by the support of the government and civilian populace. Support also came from industry which mobilized in only days to supply the materials that were needed. There were no factions; theirs was a united effort. But, even with strong backing, the British forces found themselves in a war, over 8,000 miles from home for which they were not prepared. They overcame many obstacles with ingenuity, determination, guile and professional skill. It would have been, however, far more difficult for them had the support from home been divided and the issue not quite so personal.

The Argentines lost the war but also distinguished themselves, particularly the pilots of the Navy and Air Force. The Argentine military will not be remembered for a great or classic military plan, or a united effort. They will, however, from the air war they waged be remembered for their individual courage, their national will and their commitment to fight.

While the British were supported by national unity, the Argentines were controlled by a disjointed junta. Their forces were uncoordinated and their effort uncertain as to specific military objectives. Yet their pilots pressed on with an unrelenting determination. As the air war progressed, Argentine pilots faced less than a 50 percent chance of returning from a mission.<sup>1</sup> They could not continue to pursue the destruction of the British fleet and incur air losses at this rate. They still were concerned with an unfriendly neighbor, Chile and had to retain air power to respond to the perceived Chilean threat.<sup>2</sup>

The British made the necessary adjustments. They were

faced with numerous problems and their innovative approach in modifying their equipment overcame many shortcomings. National policy had evolved their armed services into NATO proficient forces, incapable of unilaterally waging a war any distance from their shores. Their Navy was prepared for ASW/convoy operations. An amphibious operation 8,000 miles from Great Britain was realistically inconceivable to defense planners. War in Europe was more likely and British defense budget reductions were directed at the weapons systems of war away from home, especially large aircraft carriers.

Consequently, the Harrier, with its VSTOL profile, enabled the British to prosecute their intentions. The Harrier's vertical take-off and landings capability enabled it to operate from Great Britain's two remaining small carriers, the HERMES and INVINCIBLE. Its maneuverability in air-to-air combat was better than that of any Argentine aircraft, giving the British a decided edge. The British suffered because of the lack of airborne early warning aircraft but the presence of the Harrier at least lessened the criticalness of this deficiency.

The British won the war, attained their objective but still the war did not go as planned. They had unequivocally stated that they are not capable of making an opposed amphibious landing. Therefore, their aim was to insure an unopposed landing on the Falklands by destroying the Argentine troops located there.<sup>3</sup> This aim was never reached for two reasons. First and predominantly, the Argentines dug in and stayed under cover, thus their destruction was almost impossible. Second, the Argentines' pursuit of the fleet pushed the British air arm to its limits so the means was not readily available to affect the destruction.

For the same reason, the Argentines were able to continually re-supply their forces on the Falklands. Although the Total Exclusion Zone (sea and air exclusion) had been in effect since late April, the Argentines continued to penetrate the zone at night with C-130 transports. The limited Sea Harrier assets just could not maintain continuous coverage, 24 hours a day.

The British then, chanced a landing without complete assuredness that it would not be opposed. Their confidence was bolstered only by their intelligence gathering means. This was extremely effective especially that carried out by the SAS and SBS. Although access to satellite collection had been provided by the United States, the first hand information collected by on the scene, specially trained personnel was the necessary ingredient for success. With this information, a beachhead was selected both to ensure surprise but also protection for the landing force. A demonstration was also conducted to draw attention away from the main landing. Much of this plan was developed on the basis of a strong intelligence gathering network, a resource the Argentines lacked.

The Argentine command was mostly concerned with naval intelligence, i.e., the movement of the British fleet. The ability to gather naval intelligence, however, proved to be very weak. The paucity of aircraft equipped for such a mission has been discussed. This weakness was amplified by their lack of prompt and accurate reporting and even more surprising, their inability to pass important information between the three services. When news of the British actions on May 21 reached Argentina, two hours elapsed before the Army and Navy passed the information to the Air

Force. The first Air Force missions that day were planned on the basis of "sketchy reports of some form of British operation taking place there", a vague background for accurate attack planning.<sup>4</sup> Unbeknownst to the British, poor communication by the Argentine staff facilitated the requirement for an unopposed landing. The Argentines were also unable to shadow the fleet and news of the ships' presence in San Carlos was passed only after they had already arrived in the area.

Once ashore, the British found that their communications systems were inadequate, for a timely and coordinated effort. The Army, especially, had extreme difficulty in coordinating with the British command ship. They had an HF capability, but the HERMES remained at a great distance from the islands for its own protection and the extremely poor weather encountered during most of the war greatly hampered effectiveness. The alternative was a satellite link with relay to London and then to the ship. However, the Army did not possess the required access means to the satellite system.<sup>5</sup> The end result was an inability to support ground requests for air with any punctuality. Royal Marine units had less difficulty in processing requests perhaps because they regularly worked with the Navy and compatibility existed from prior practice.

The Argentines were hampered by communications problems mostly attributable to a lack of unity among the ruling junta. From the outset, the President, General Galtieri and the Navy Chief, Admiral Anaya were most aligned in the decision to take possession of the Falklands. The Air Force head, Brigadier Basilio Lamidozo, was not privy to the initial decision to invade. Throughout the conflict, Lamidozo remained the most hesitant member of the triad<sup>6</sup> ironic position in that his Air Force was so aggressive in fighting the ensuing battle.

The Argentines recognized the necessity to have an overall commander of the forces involved and assigned Admiral Juan Jose Lombardo to the post. But as the war situation deteriorated, his effectiveness lessened. The Army and Air Force began to take exception with the orders issued by a naval officer when the Argentine surface navy had for all intents and purposes taken itself out of the war.

Each air component also had its own coordinating headquarters. The Air Force controlled tactical air operations through the Comando de la Fuerza Aerea Sur (South Air Force Command). The Navy A-4's and Super Etendards were based at Rio Grande under the operational control of the Naval Air Command. No coordination existed between the two controlling agencies. For instance, the Navy launched the initial Exocet attacks without informing the Air Force of their intentions.

The result of jealousy and poor communication between services resulted in no control. The junta acted like a coalition government, with the emphasis on factions and this permeated down to the armed services. The Argentines violated a basic rule of warfare, i.e., unity of effort; this then seriously hampered their performance and positive control of tactical air operations was never achieved. Had there been better coordination, the results might have been reversed.

The British high command, however, functioned with control and perception. Admiral Sir John Fieldhouse, the Joint Commander remained in the United Kingdom but still provided overall direction for the war. The Chief of

Defence Staff, Admiral of the Fleet Sir Terence Lewin, was the military's link to the government. The aims of both Fieldhouse and Lewin were realistic: they wanted to keep directives from London as broad as possible in order to give the local commander, Rear Admiral Woodward, maximum operational flexibility in planning.<sup>7</sup> This proved prudent in that the British did not have a contingency plan for the operation and a flexible approach was needed in reacting to the unpredictable situation.

Argentine decision making reflected a lack of experience in wartime matters. British actions caused hasty reactions evidently without a clear understanding of the ramifications.

The British Vulcan attacks resulted in little damage to their targets. They did, however, make the Argentines realize their bases on the mainland could be reached by the Vulcan. Consequently, the Argentines concentrated their Mirage effort on defense of their air bases. This left attack aircraft without escort, increasing their vulnerability. This decision eased one of the most feared concerns of the British, the possibility of defending against attackers and escort aircraft simultaneously. This proclivity of the Argentines to assume the worst and reduce their offensive capability contributed significantly to the British success.

Some British decisions were also questionable. They were driven by a need to end the war as soon as possible. They realized the conflict would become progressively difficult to win as the harsh South Atlantic winter approached. The weather throughout the war had been atrocious. Between May and June there had been seventeen days when aircraft could not participate in the battle because of rain and low clouds,<sup>8</sup> an indication that cold, windy and wet weather would soon be the norm. Not only would air operations be seriously hampered, but the British troops, however hearty, would be subjected to the horrible weather.

The British, driven by these considerations, made the landing at San Carlos without the air superiority usually required. They gambled that the Argentines would not intercede either by ground or air action. The British were fortunate as the bungling of the Argentine staff left them unopposed until much of their force was ashore.

Later the British, again pressed by a need for expediency, moved the SIR GALAHAD, unescorted, to the eastern side of the islands. This was not however, an uncommon tactic of the British. Ships had been regularly left without cover because of their lack of assets and the need to concentrate much of their efforts in protecting the two carriers.<sup>9</sup> Given their lack of air assets, they utilized an umbrella type defense. The air war was essentially fought between Pebble Island and the eastern shore of East Falkland. They attempted to cover the 90 mile by 100 mile area and not any specific ships within it. In the case of the SIR GALAHAD, they also hoped the poor weather of the day prior would continue, providing the ship with additional protection. However, as many forces have found in prior battles, reliance on the predictability of weather can be foolhardy. The skies cleared, the raid came, and the British suffered their highest single incidence of casualties of the entire war.

When the Argentines decided that an invasion of the Falklands was militarily prudent they assumed that the British would never be able to take military action

because of the great distance involved. The South Americans were summarily surprised when the British responded with such speed and strength. Within four weeks a major force of ships and men were in position to wage war on Argentina's doorstep.

Both sides were faced with problems caused by their locality to the war. The British could get closer to the war with their carriers, but still had to contend with the inflexibilities associated with carrier based operations and the finite number of evolutions that could be supported by waterborne platforms. The Argentines, in particular had to support their aircraft from home bases and consequently had to deal with the problem of being located 400 miles from the battle area.

The Port Stanley airfield could have solved Argentina's problem. The field, only 2,000 feet long, was not suited to heavy jet operations. Had it been longer, however, it could have accommodated Argentine attack aircraft.

The Argentines considered attempting to enlarge the field with expeditionary materials<sup>10</sup> but gave up on the idea for several reasons. The portable metallic planking was available but was an extremely large load to transport either by air or sea. In April, they moved one load by ship but began to feel pressure from the quick reaction of the British which compelled them to concentrate on the transport of other war supplies. They also decided that the time required to install the matting, considering the rugged terrain surrounding the airport, would be greater than that available. They also had to improve fuel storage and refuel capabilities to support jet aircraft, but again time constraints caused them to reject such an endeavor. Finally, the Argentines felt they would not be able to defend the airfield and their valuable jet assets would be victimized by Harrier or Vulcan attacks.

However, aircraft operating from the islands would have been a great cause of concern for the closing British fleet. If the occupation had not been impromptu, they might have considered, planned and prepared for the enlargement of the strip, moved aircraft and defense equipment there and been prepared to carry the fight to the British further out at sea. Their spontaneous attack of the islands left the Argentines without this viable alternative.

The fact remains the airfield was not suitable for jet traffic and the war had to be fought without the advantages a larger facility would have allowed. Both sides fought as previously described. The question is, could the Argentines have fought differently and changed the outcome? Considering the lack of success of their bombing raids and their problem with unexploding bombs, the answer certainly is, yes.

The Argentines went into the war without experience. True, the British pilots were also not combat veterans, but their forces had at least historical experience to draw upon. The Argentines, however, had nothing to relate to in the way of national experience.

Argentine training reflected this. Their pilots were not prepared for the adversary they were to encounter.<sup>11</sup> Realistically, their training was based on the threat posed by Chile, a country with similar inexperience in air battle and armed with comparable weapons systems.

Consequently, the Argentines were forced to develop tactics from their first experiences against the British. They decided on flying a low profile at fifty feet or less. This forced them to ingress without escort, a weakness the

British pilots recognized, and used to their advantage.<sup>12</sup>

The Argentines negated a great amount of certain success by staying at such a low level to release their bombs. They were for the most part using 500 and 1,000 pound iron bombs. These have a fuzing mechanism that activates only after the bomb has been released. Arming vanes then begin to rotate to activate the warhead. This procedure takes time and bombs released at so low a level did not have time to arm. The Argentines knew this but their lack of flexibility caused them to continue this delivery method.

There was an alternative. They could have continued ingress below the Sea Dart envelope and then climbed to higher altitude to release their bombs. This, according to British sources, would not have decreased their survivability<sup>13</sup> and what they would have lost in accuracy, they may have gained in effectiveness and perhaps prevented some of their own losses.

The destroyer GLASGOW was hit by bombs that didn't explode. The frigate BRILLIANT's anti-air missiles destroyed four Argentine aircraft. The frigate BROADSWORD avoided destruction as three Argentine bombs bounced over its stern. BROADSWORD downed three aircraft. The frigate PLYMOUTH was hit by four unexploding bombs. PLYMOUTH claimed destruction of five aircraft. Had these ships been lost, the British fleet defense capability would have been greatly weakened. Argentine losses would not have been so heavy. Their ability to continue waging the war would have increased.

The Argentines employed World War II bombing techniques against the sophisticated defense weapons of the British. They were effective, largely because the Argentines saturated the ships' computers, negating their capability to provide tracking solutions. Old technology in the form of aircraft designed in the 1950's were effective against more modern equipment. The key was the absence of an airborne early warning aircraft. Had the British had this capability they could have dispatched their Harriers to intercept the Argentines well before the fleet was in danger. Considering the Argentine pilots' hesitancy in fighting the Harrier, the advantage would have swung dramatically to the British side. In essence, the British defense was not complete without early warning and their advantage in more modern weapons systems was consequently ineffectual.

Some have attributed the British victory to a good supply of luck. On 2 May, the VIENTECINCO DE MAYO pursued the British carriers with an intention to attack. They were cursed by calm winds in an area noted for the reverse. The carrier could not attain sufficient wind across the deck to launch her bomb laden aircraft<sup>14</sup>. The carrier returned to port never again to be used. Throughout the war, bombs did not explode and even more miraculously, skipped over ships.

Certainly good fortune is an ingredient in many victories. In this case, however, the predominant factors were unity, better training, better thinking and better command. It is unlikely that a preponderance of luck on the side of the Argentines could have overcome what they lacked in these areas.

### CHAPTER 3 An Analysis Footnotes

<sup>1</sup>Sir Terence Lewin, Chief of Defence Staff, address to Royal United Service Institute Annual Conference, 24 June

1982.

2Interview with Captain de Navio Jose Ferrer, Armada Argentina, Washington, D.C., 22 February 1984.

3Interview with Commander Christopher Hunneyball, Task Force Air Officer, Washington, D.C., 25 January 1983.

4Max Hastings and Simon Jenkins, *The Battle for the Falklands*, (New York, W.W. Norton & Company, 1983), p. 218.

5Interview with Commander Hunneyball.

6Hastings, p. 218.

7Sir Terence Lewin, address to Royal United Service Institute.

8"La Fuerza de Nuestra Fuerza," (The Force of Our Force), *Aerospacio*, (September/October 1982), p. 30.

9Interview with Commander Hunneyball.

10"La Fuerza," *Aerospacio*, p. 27.

11Jeff Ethell, "Mirage Squadron," *Air Combat Special Report* (1983): p. 49.

12Interview with Commander Hunneyball.

13Ibid.

14Robert L. Scheina, "The Malvinas Campaign," U.S. Naval Institute Proceedings, (Naval Review, 1983), p. 106.

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