THE ROYAL NAVY IN THE FALKLANDS CONFLICT AND THE GULF WAR:
CULTURE AND STRATEGY

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Social change impacts not just upon voting behaviour and party identity but also the formulation of policy. But how do social changes and political developments interact? Which shapes which? Reflecting a belief that social and political structures cannot be understood either in isolation from each other or from the historical processes which form them, this series will examine the forces that have shaped British society. Cross-disciplinary approaches will be encouraged. In the process, the series will aim to make a contribution to existing fields, such as politics, sociology and media studies, as well as opening out new and hitherto-neglected fields.

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Series Editor's Preface

It is estimated that the cost of defence procurement in Britain has been rising, in real terms, at 10 per cent per annum since 1945. One of the consequences is that the vast fleet possessed by the Royal Navy at the close of the Second World War has subsequently steadily shrunk, to the point where now it can only muster some 30 odd surface platforms.

The Thatcher government, in the 1981 Defence Review, was not, of course, the first to face these grim financial realities. The key part of the process of scaling back from a world role took place in the 1960s, exemplified not least by the cancellation of the planned major aircraft carrier CVA-01. Thatcher and her ministers were, however, the first to have the conclusions they reached immediately derailed by events, the Argentinian invasion of the Falkland Islands. In the short term, the result was the reversal of some of the conclusions that the Nott Review had reached; indeed, if this had not occurred the war would not only have been unwinnable but also unwageable. However, as Alastair Finlan here shows, the 1982 conflict was far from shifting the general direction of British strategy in subsequent years. The Royal Navy may have possessed, from the late 1960s, the cardinal weapon of the Cold War, the nuclear missile. Otherwise, the Senior Service was allotted somewhat unheroic roles, such as keeping watch on Soviet submarines through the Iceland gap, tasks which were essential but mundane, and hardly calling for a multiplicity of platforms or capabilities.

Whilst the strategic environment in which the Royal Navy had to operate changed radically over the period after 1945, and was to change again in the 1990s with the end of the Cold War, Finlan suggests that the institutional culture of the service has, however,

been little affected. The resulting effects on naval thinking are carefully sketched out. On the one hand, naval culture fosters a belief in naval capabilities that proved significant in shaping the options for and approach to the Falklands conflict. On the other, it can lead to an emphasis on certain assets, particularly surface platforms, that seems to have delayed and disrupted acceptance of some of the lessons of that conflict, such as the importance of over-the-horizon air defence to protect those platforms.

It is obvious that cultural norms and expectations, and the cognitive realities they form, will shape human behaviour. Finlan writes in the acute knowledge of his own role, as a former teacher at Britannia Royal Naval College, in the cultural formation of naval officers. There is an implicit sub-text in this book which addresses the moral responsibilities of that role. After all, the stability of the institutional culture of the Royal Navy surely reflects the continuities in the training provided. Is that appropriate? Or should the cultural values inculcated have been adjusted to reflect the diminished size of the Royal Navy and its rather different roles and assets? More generally, how should naval colleges seek to train their students for the responsibilities they will face and equip them mentally and culturally for the accompanying challenges?

Broadly speaking, the institutional culture of the Royal Navy is validated by Finlan's examination. He tests it in two very different exercises, the Falklands and the first Gulf War. In the former the Navy played a key role, both in imagining the possibilities of the conflict and in eventually waging and winning it. In the latter, the Royal Navy's role was sufficiently minor to be largely sidelined by the media. The Major government also seemed to view the Navy's likely contribution as limited, and neither an aircraft carrier nor an admiral was deployed in the Gulf. This did not prevent, as Finlan shows, the Navy from achieving considerable, if unsung, success.

Where the institutional culture emerges from these two case studies as more problematic is at the intra-service level. A historically based institutional culture, such as that of the Royal Navy, automatically runs the risk of emphasizing some assets, in this case surface ships, at the expense of others. This is despite the key role submarines and air assets obviously played in the Falklands. However, even when key commanders came from these specialisms, as in the Falklands, failures to understand the operation and limitations of other specialisms still occurred, with significant consequences. Intra-service cultural differences, in other words, are shown as having detrimental effects on fighting

capabilities. This emerges most clearly from the case study on the Falklands, where the very varied nature of the naval task maximized the potential for intra-service misunderstandings, whereas in the Gulf the close fit between the cultural formation of Commodore Craig and the operational requirements he faced generated less in the way of intra-service difficulties.

The Gulf War of 1991 was also reassuring in another sense, in that it demonstrated good co-operation with the much larger US Navy during the conflict. Indeed, some ships originally built to act as guardships for the aborted CVA-01 ended up playing the same role for American aircraft carriers during the first Gulf war. The institutional culture of the Royal Navy does not seem to have conflicted with this subordinate role, whilst the good fit between the operational capabilities of the two navies seems to have avoided some of the intra-service problems that marked the Falklands war.

Finlan, by focusing on institutional culture, has provided us with a different prism through which to view these conflicts. He has also pointed to ways in which the training and cultural formation provided by defence colleges can be tested by reference to how it is operationalized in the field or at sea. Whether an institutional culture founded upon the exploits of Nelson will remain as apposite if the Anglo-French naval co-operation the present British government seems keen to encourage ever becomes the norm is, however, a different matter.

Peter Catterall
London

Preface

As this book neared completion, I watched a 'live' newscast on cable television in my apartment in Cairo, of the largest deployment of British warships since the Falklands Conflict, headed by the aircraft carrier, HMS *Ark Royal*. ITN decided to interview the youngest officer, a female midshipman, on board Britain's most famous ship and my mind wandered back to the cramped classrooms at Britannia Royal Naval College where I used to teach such junior officers a few years earlier. *The Navy is going to war again*. The roots of this book can be traced back to research undertaken for an MSc (Econ) in Strategic Studies in 1993. The topic concerned an aspect of the Falklands Conflict and during the process of investigation, I noticed how little material existed on the Royal Navy's role in the South Atlantic campaign. Much of the work that did exist seemed to be extremely perfunctory in its analysis of the motivation and performance of the service as a whole. Consequently, I put together a PhD proposal in order to try to fill what appeared to be a research vacuum.

My initial approach was a standard inquiry into the policy aspects of the Royal Navy, primary sources were referenced and ideas began to formulate, but what changed the direction of the research was my interaction with former naval officers during interviews. There was a consistency of behaviour, belief and outlook that seized my attention and this line of investigation gained an enormous boost by my appointment as a Lecturer at Britannia Royal Navy College in 1997 when I was halfway through the thesis. Now, I could actually witness at first hand the process by which civilians were converted into naval officers and the immense influence of institutional culture throughout the

service. Remarkably, this phenomenon is hardly recognized within the Royal Navy and in general is subconscious in nature to those serving within the institution even though it accounts for much of the rationale and reasoning of the Navy itself.

Chapter 1 offers an examination of how culture is produced, replicated and sustained within the officer corps of the Royal Navy as well as its relationship with the concept of strategic culture. Chapter 2 provides an assessment of the key facets of the Royal Navy's strategic predilections and the threat facing these preferences from the 1981 defence review. It also examines the nature of the task facing the service in attempting to execute a long-range amphibious assault against dug-in Argentine forces on the Falkland Islands. Chapter 3 analyses the impact of institutional cultural on naval operations and particularly highlights the tensions caused by the interactions of the various subcultures. Chapter 4 considers the state of the Royal Navy by the late 1980s and the problems that had begun to manifest themselves at the end of the decade. It also examines the challenges that the crisis in the Persian Gulf posed for naval operations. Chapter 5 highlights the diminished position of the Royal Navy in the command structure of Operation Granby and how that affected the service's cultural predilections and operational capability. It too highlights the impact of subcultures on naval operations. Chapter 6 concludes the book by comparing the Falklands Conflict and the Gulf War from a cultural perspective as well as illuminating future trends for the Royal Navy in the twenty-first century.

The aim of this book is to illustrate a rarely considered aspect of the Royal Navy and how it influences not only the day-to-day existence of the service but also major decisions during war. My conclusion is that institutional culture can account for much of the success of the Navy as well as being at the same time a source of tension through the existence of subcultures. To be a winner in battle requires a winner's mentality and in this respect, the Royal Navy has managed to produce highly successful officers with remarkable consistency for hundreds of years. If the Royal Navy's institutional culture remains intact, despite the huge structural changes that it faces today, then this success is likely to continue for the foreseeable future.

Finally, it is important to note that the analysis, conclusions and views in this book are completely my own and should not be associated with the Ministry of Defence or the Royal Navy.

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This book is based partly on my PhD thesis, which in common with research of any nature has many patrons. First and foremost, I am very grateful for the patience, counsel and support of my supervisor, Professor Alex Danchev, the Head of the School of Politics, International Relations and the Environment (SPIRE), Keele University. I have also been very fortunate in the number of people who have helped directly or indirectly with the production of the thesis. The Department of International Relations, now part of SPIRE, Keele University provided me with considerable assistance and I am very appreciative of the advice from several members of staff, notably Dr David Dunn, Maureen Groppe, Dan Keohane, Professor Andrew Linklater and Dr David Mutimer. Special mention is due as well to my external examiner, Professor John Baylis for his illuminating thoughts about subcultures. I am also in debt to Sharne Procter and Carole Holder of the Department of Academic Affairs, Keele University for providing me with temporary full-time employment in various guises for three years of this research.

In the course of examining various aspects of the Falklands campaign, I managed to interview many key personalities involved in the campaign and I am grateful to the following for their hospitality as well as frank opinions: the late David Brown, Commander Jock Gardner, Admiral Sir Henry Leach, Lieutenant David Leaning, the late Lord Lewin, Sir John Nott, Admiral Sam Salt, Admiral Sir Alan West, Admiral Sir John Woodward and various members of the ships' companies of HMS *Iron Duke*, HMS *Cornwall* and HMS *Glasgow*. Readers will note that I have omitted any references to these interviews in the book; nor do I include any information derived from these conversations. This is

deliberate because much of the information contains personal views on the Falklands Conflict that I consider inappropriate to reveal in such a public forum. I am also indebted to Captain Chris Page who as Head of Defence Studies, MoD organized many of these meetings. Special thanks must go in addition to the tireless efforts and support of Dr Geoff Sloan, Head of the Department of Strategic Studies and International Affairs, Britannia Royal Naval College in pushing me to get this book published. Thanks as well to Dr Theo Farrell who, while reading some of the earliest chapters, steered me past many intellectual pitfalls concerning culture. Furthermore, I am extremely grateful for the assistance provided by the Library staff of Britannia Royal Naval College (Richard Kennell, Gill Smith, Wendy Tomlin and Robert Wardle) in checking rather aged quotations and references for me. The Library at BRNC remains one of the best-kept secrets of the Royal Navy. I also want to express my gratitude to Hazel and Richard Watson of 'The Map Studio' for producing both maps in very short order.

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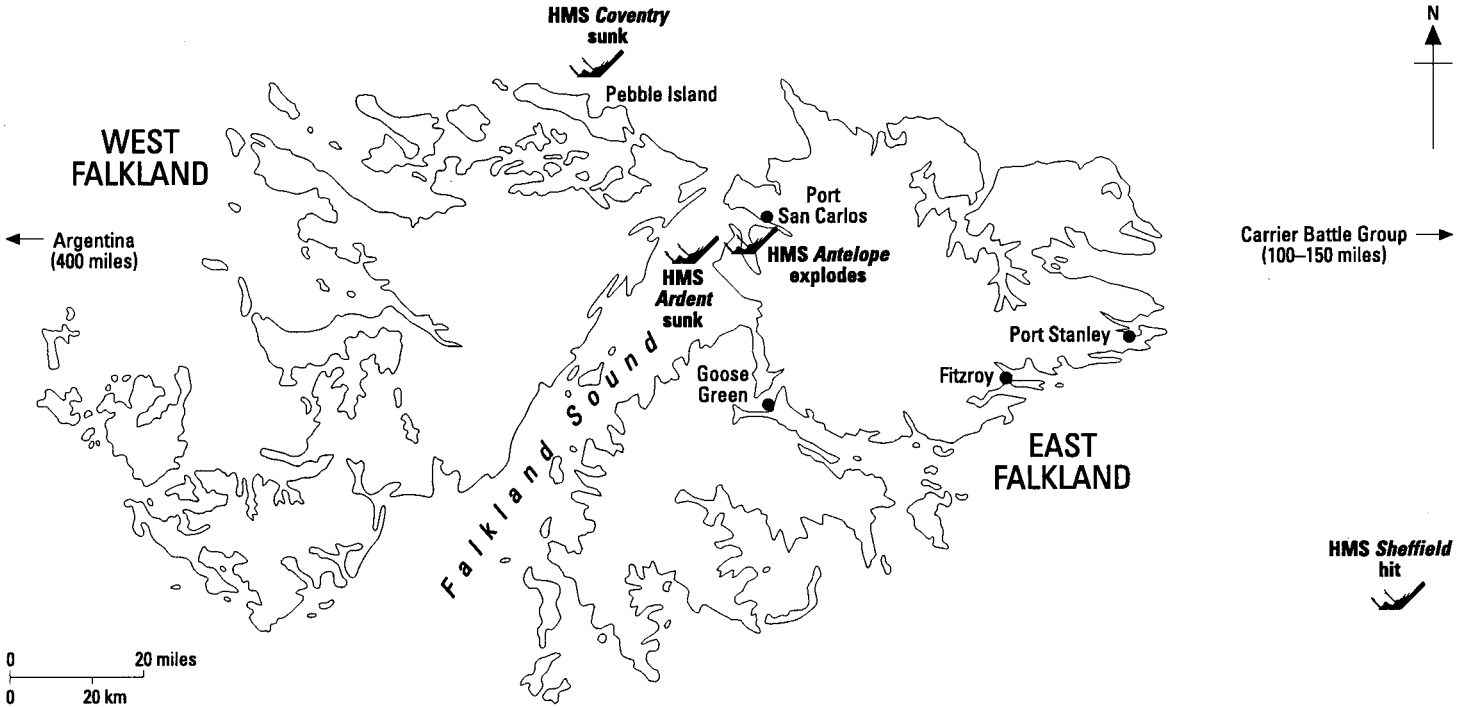
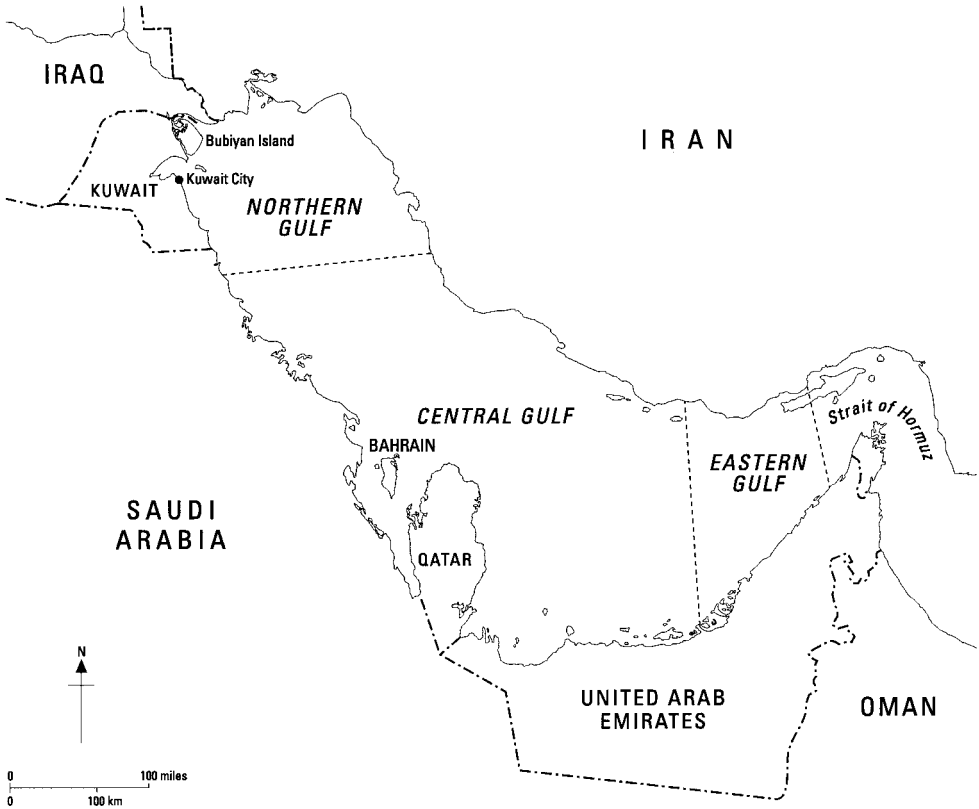
Cairo
January 2003

Abbreviations

AAW	Anti-Aircraft Warfare
AEW	Airborne Early Warning
AOA	Amphibious Objective Area
ASW	Anti-Submarine Warfare
ASUW	Anti-Surface Warfare
CAG	Carrier Air Group
CAP	Combat Air Patrol
C3I	Command, Control, Communications and Intelligence
CTF	Commander, Task Force
CTG	Commander, Task Group
EH 101	'Merlin' helicopter
FRS2	Upgraded Sea Harrier
HNS	Host Nation Support
JTFC	Joint Task Force Commander
JHQ	Joint Headquarters
MEZ	Maritime Exclusion Zone
NATO	North Atlantic Treaty Organization
NGS	Naval Gunfire Support
PJHQ	Permanent Joint Headquarters
RFA	Royal Fleet Auxiliary
ROE	Rules of Engagement
STUFT	Ships Taken Up From the Trade
SDE	Statement on the Defence Estimates
SDR	Strategic Defence Review
SLOCs	Sea Lines of Communication
TEZ	Total Exclusion Zone
TLAM	Tomahawk Land Attack Missile
VLSW	Vertical Launch Sea Wolf


HMS *Coventry* sunk
Pebble Island
WEST FALKLAND
Argentina (400 miles)
Port San Carlos
HMS *Antelope* explodes
HMS *Ardent* sunk
Falkland Sound
Goose Green
Port Stanley
Fitzroy
EAST FALKLAND
N
Carrier Battle Group (100–150 miles)
HMS *Sheffield* hit
0 20 miles
0 20 km


IRAQ
Bubiyan Island
IRAN
KUWAIT
Kuwait City
NORTHERN GULF
CENTRAL GULF
Strait of Hormuz
BAHRAIN
EASTERN GULF
SAUDI ARABIA
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OMAN
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100 miles
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— 1 —

Culture and the Royal Navy

In this high-technology age of cruise missiles, satellite-guided bombs and depleted-uranium tank shells,[1] surprisingly, given the limitations of the flesh, people are still the most important elements in warfare. Apart from the former stemming from the imagination of the latter, the art of war remains the realm of specialists in global society. The effects of fighting may influence millions but the warrior in whatever guise (soldier, guerrilla, terrorist) represents a minority occupation in the twenty-first century.[2] These individuals have joined a profession in which the fundamental purpose is to apply violence (often lethal) to achieve political ends.[3] Like all employment, the career span of a warrior is limited by age, with few exceeding more than forty years, but unlike in most other occupations, warriors may never practise their skills. War is a haphazard event in international relations not only in terms of occurrence but also duration. In extended times of peace, some military specialists will never hear the sound of battle whereas others will always live under the shadow of the sword. Regardless of circumstances, the profession of arms continues whether in peace or war and it produces a certain type of global citizen who is attuned to a different environment to that which the majority of society takes for granted.

MILITARY ORGANIZATIONS

The armed forces are institutions in their own right or in other words represent some of the most important forms of organization within a state. Organizations can be described as

collections of people within society working toward a common goal or within a common framework. Institutions are created by nations and provide the foundations on which the political structure resides. They are specifically designed for a purpose whether it be collecting money like the Treasury or providing a force option within the maritime environment, which is the function of the Royal Navy. Organizations of whatever form do not have the same level of legitimacy that institutions possess within society. Legitimacy is often derived from age, and state institutions tend to be very old and in a social sense generate an imbued trust in society. Military institutions need society to provide recruits but in the case of regular non-conscript forces, the trust element in the relationship between the civil and military is very important. Joining the military is universally acknowledged as employment with a risk factor to life expectancy that is higher than for most non-military organizations. At the societal level, certainly in respect to Britain, families must have confidence in the armed forces to look after the future generation despite the increased work-related risks.[4]

The Royal Navy is a very old military institution that has been in existence for hundreds of years. As such, it has served Britain in various forms of statehood from the absolute monarchy to the modern democratic constitution. The link with the highest levels of political governance has traditionally been strong. To this day, the power cables with the royal family (the former rulers of the nation) are still embedded in the Royal Navy, reflected in the position of Lord High Admiral, the symbolic head of the service, that is occupied by the current Queen Elizabeth II. Prince Charles, the heir to the throne, and Prince Andrew were both officers within the service.[5] Remarkably, the institution even introduced the head of state to her future husband: the Queen met Prince Philip in the grounds of Britannia Royal Naval College.[6] The role of the Royal Navy in relation to the nation have been inextricably linked to Britain's island status. The surrounding sea has always possessed a Janus nature: on the one hand, a source of trade and resources like fish (now gas and oil) but on the other, a conduit for hostile invaders. Invasions in British history have tended to be catastrophic events for the indigenous political administrations from the time of Julius Caesar in 55BC to the successful assault by William the Conqueror in 1066. From this perspective, the maintenance of a viable navy in order to pre-empt a land engagement and ensure the survival of the state has been the ultimate *raison d'être* of the Royal Navy. This purpose has been perpetuated within the

institution and demonstrated itself to be of critical importance to the security of Britain for several centuries, a span that includes the first 50 years of the twentieth century.[7]

CREATING A MILITARY CULTURE

The inner workings of military organizations are shrouded in mystery to outside observers due to their exclusive nature. In modern democracies with professional, all-volunteer armed forces, only a select few are chosen to join the ranks of the military. In Britain, for instance, approximately 37,000 people (trained) serve in the contemporary Royal Navy, and without universal military conscription, it means that just a fraction of the 60 million inhabitants of the island experience close contact with the service. In the recent past, the relationship with society was much closer, reaching a peak with World War II when nearly one million personnel served in the Royal Navy.[8] The current isolation has been further reinforced by the threat of domestic terrorism for the last 30 years, and so the sight of uniformed personnel has become a rare event in civil society except for ceremonial duties. Military units have been forced to tighten the security surrounding their perimeters with the inevitable consequence that the natural gulf with society between civilian and service personnel has widened considerably in these years.

Behind this virtual wall, the British armed forces have continued to prepare for conflict. Access or a lack of it has not altered their primary purpose that remains to fight in the interests of the state or as Bernard Brodie once remarked, 'to win wars'.[9] This may seem like an excessive emphasis on functionality but it is the innate core around which military culture is formed. In the field of international relations, a great deal of contemporary research is beginning the focus on the role of culture within these organizations.[10] A good starting point is Alastair Iain Johnston's definition of culture:

> Culture consists of shared decision rules, recipes, standard operating procedures, and decision routines that impose a degree of order on individual and group conceptions of their relationship to their environment, be it social, organizational, or political. Cultural patterns and behavioural patterns are not the same thing. Insofar as culture affects behaviour, it does so by presenting limited options and by affecting how members of these cultures learn from interaction with the

> environment. Culture is therefore learned, evolutionary, and dynamic, though the speed of change is affected by culturally influenced learning rates, or by the weight of history. Multiple cultures can exist within one social entity (i.e., community, organization, state, etc.) but there is a dominant one that is interested in preserving the status quo. Hence, culture can be an instrument of control, consciously cultivated and manipulated.[11]

The critical question is that of how a military culture can be assessed or measured. Public displays of pomp and ceremony merely reveal a carefully orchestrated veneer suitable for wider society. A more in-depth examination of a military establishment creates an interesting methodological challenge for researchers seeking to explore the visible and the invisible aspects of an armed service. Uniformity, order and identity predominate the atmosphere that is punctuated by consistency of behaviour with (service-specific) idiosyncratic language. Elizabeth Kier in her study of French and British military doctrine in the inter-war period adopts an 'interpretive approach based on archival, historical and other public documents'.[12] This study too utilizes such material but in addition illustrates how culture is formed and perpetuated among the officer corps of the Royal Navy at the very earliest stage based on first-hand observation.[13] The focus on the officer corps is deliberate because it provides the leaders who make the key decisions within the organization. As Legro has noted, 'cultures, once established, tend to persist. Those individual members of a culture who adhere to its creed tend to advance in an organization and become the dominant culture's new protectors.'[14] It is through people, or more specifically officers, that military culture is replicated in a uniform manner over extended periods of time.

THE ROYAL NAVY

Britannia Royal Naval College, colloquially known as 'Dartmouth', is the place where the cultural regeneration process occurs for newly joined officers. It is an initial training establishment that steeps the new recruits in the beliefs, norms and values of the service for a year before determining whether they are suitable for further training and careers as naval officers. Highlighting the means by which the Royal Navy generates a cultural format requires a multi-disciplinary approach. By itself,

the college is just a building, albeit a magnificent one, built during an age when the Royal Navy was the most powerful navy in the world, but it is merely – in modern terminology – the hardware. Of more significance is the software, or the process of converting a civilian to a military officer. In common with much of the recent research, a sociological perspective provides a useful means of analysis, particularly that suggested by Edgar Schien who offers an excellent model for how an organizational culture can be illustrated layer by layer. This model shows that at the surface lie artefacts and creations such as technology. Just below the surface can be found the inherent values or the sense of what 'ought' to be within the organization. At the heart of the organization reside the basic assumptions and beliefs, which are taken for granted and invisible.[15]

Figure 1. Levels of Culture and Their Interaction

Artefacts and Creations	
Technology	Visible but often
Art	not decipherable
Visible and audible behavior patterns	
↑ ↓	↑
Values	
Testable in the physical environment	Greater level of
Testable only by social consensus	awareness
↑ ↓	
Basic Assumptions	↑
Relationship to environment	
Nature of reality, time and space	Taken for granted
Nature of human nature	Invisible
Nature of human activity	Preconscious
Nature of human relationships.	

Source: E. Schien, *Organizational Culture and Leadership*, p. 14.

Making a Naval Officer

Military leaders are artificial creations, shaped and manipulated by institutions to conform to their own image. As John Garnett reminds us, 'there is widespread agreement that one of the things that distinguishes human beings from animals is that most of their behaviour is *learned* rather than *instinctive*'.[16] With regard to the Royal Navy, new officer cadets endure a 'formatting' process that could be described as intense indoctrination. The civilian or potential officer is immediately displaced from mainstream British society in a physical and psychological sense by being immersed in an all-encompassing

military environment. Quite quickly in this setting, the relationship between civilian and military though not explicitly expressed becomes one of 'us and them', which is particularly noticeable among new recruits after just 15 weeks of training. An individual's entire life structure is completely altered to fit in with the collective whole. The process of assimilation stretches from personal appearance, such as haircut, dress and bearing, to attitudes and beliefs. Kier argues that, 'the military's powerful assimilation processes can displace the influence of the civilian society'.[17] The Royal Navy arguably achieves this goal in its training process in a remarkably short space of time. For the first weeks of training, no new recruit is allowed on a 'run ashore'.[18] All are confined to the establishment and worked for periods that average 16 hours a day. Gradually through instruction, osmosis and environment, the recruit becomes navalized. Dropouts, and those considered unfit for naval life, are quickly excluded from the primary group.

Identity within individual divisions and classes is promoted on a daily basis. Legro reinforces this argument by stressing that, 'people are socialized by the beliefs that dominate the organizations of which they are part. Those who heed the prevailing norms are rewarded and promoted. Those who do not are given little authority or are fired.'[19] Competition with other recruits and other units is inculcated from day one and it remains an essential element of a naval officer's career. If at any stage a naval officer or a cadet leaves the service, then the bonds are broken for ever and that person no longer counts for anything within the institution: a brutal selection process that has honed generations of naval officers in the jungle of advancement to higher ranks. By the time a naval officer reaches the highest rank of the Royal Navy, that of 'First Sea Lord', then the institution will have selected an individual who reflects the beliefs and assumptions of the service to a greater degree than his contemporaries.

The social separation from society is most effectively achieved through the use of institutionally specific language. Language probably creates the most divisions in human relations in global society. It heightens a sense of what postmodernist writers would call 'otherness'.[20] The language of the Royal Navy revolves around the terminology associated with ships. Toilets are 'heads'. The dining room becomes the 'mess decks'. The separation from 'normal' society in terms of language alone, especially the excessive penchant for abbreviations like 'VMT' which is short for 'very many thanks' is like moving within a

foreign country with a different culture yet located in Britain. The sustenance of this 'way of life' within the Royal Navy is heavily dependent on what Alvesson stresses as people, pointing out that 'culture is constructed, maintained, and reproduced by people. It is people rather than autonomous socialization processes, rites, social practices, a societal macro-system, or key figures that create meanings and understandings.'[21] In the Royal Navy, people are very important in acting as role models for new recruits. Behaviour and values are rigorously sustained by strong codes of discipline clearly set out in writing in the Queen's Regulations,[22] a publication that covers virtually all aspects of conduct for officers and ratings in every social scenario, from which uniform to wear on a particular day to disciplinary codes for inappropriate behaviour. In this sense, naval society is governed by explicit codes, which have been in existence within the institution for centuries. Uniformity and conformity are the twin bedrocks of behaviour. Individualism that falls outside of the group is simply not tolerated. Underpinning the social codes of the Royal Navy is the importance of 'fitting in' which is derived from ship-borne existence in which an individual who does not fit in disrupts the workings of the ship, which can be highly hazardous whether just at sea and sailing or at war. The closed society of the Royal Navy creates an institutional reality,[23] which permeates everything despite the fact that access to the outside world is freely available in terms of information and scope to visit. Everything is provided for within naval life, from a regular income, accommodation, and food to social events. From this perspective, institutional culture is not only all-pervasive but also generates a high level of dependency among its personnel.

IMAGERY AND SYMBOLS WITHIN THE ROYAL NAVY

Imagery and symbols are unwritten and unspoken influences within military organizations that illustrate the core values that are operating at an almost subliminal level. Powerful images of 'famous warriors' are more than just paintings on a wall, but represent a form of visual history that the institution deliberately wants to expose to new recruits. Decoding the meanings requires reference to sociological models and Schien's ideas can be applied quite effectively to the Royal Navy on several levels with some modifications in order to be more appropriate to the character of

the Royal Navy. In the case of artefacts, that share some characteristics with Johnston's idea of a 'system of symbols' in strategic culture,[24] the Royal Navy places a high importance on what is probably better described as trophies and commemorations, which include in particular victorious paintings of successful military leaders. The proliferation of these trophies and commemorations is most apparent at Dartmouth. In essence, visual manifestations of the 'way of the warrior', but very specifically that of a Royal Navy officer who is distinct almost in a tribal sense from army or air force equivalents.[25] For the most part these trophies are absorbed through a process of osmosis rather than any specific periods of instruction. The paintings, however, are treated very differently, especially in the Senior Gun Room which not only forms the mess for the junior officers but acts as the forum for arguably the most important ritual of the Royal Navy, Trafalgar night. This evening celebrates the famous victory of Admiral Nelson over the combined fleets of France and Spain on 21 October 1805.[26] It is held every year on all the ships of the fleet and shore establishments within the Royal Navy. Ostensibly, it is just a dinner, yet as a ritual it encompasses everything about the modern Royal Navy in terms of beliefs. At Britannia Royal Naval College, Trafalgar night is, depending upon the date of entry, a rite of passage for the newly joined young officers. It is their first opportunity to be 'dined out' as relatively established members of the naval community. At this stage in their training, those who are unsuited to naval life have dropped out or if not quite up to scratch have been put back for an additional term of training.[27] The Senior Gun Room provides the dining hall with its walls covered in huge portraits of naval leaders throughout the ages who have accomplished famous victories. The most recent portrait on the walls is of Admiral Sir Henry Leach, the First Sea Lord during Operation Corporate, the successful recapture of the Falkland Islands. At the centre of the room toward the rear of the dining area is a simple wooden plaque that reads 'NELSON'. The tables are set out in long rows that are joined in a 'T' by the head table. Crossing the 'T' was the most important tactical manoeuvre for a ship from Nelson to Jellicoe in World War I because it brings the maximum amount of guns to bear on a disadvantaged opponent. The head table holds the most important guests, reflecting the fact that the hierarchy is still present even during dinners.

The maintenance of discipline during the dinner is strictly enforced. This extends as far as bladder control for nobody is allowed to leave the tables until the order 'Ease Springs' is given.[28]

The only light in the room is from candleholders placed on the tables along with other items of mess silver: the most intimate and expensive trophies held by the officers and only used during official dinners. The use of candles conveys a sense of history of a time without electricity, primitive and raw. In the background, a group of Royal Marine bandsmen play classical music from many instruments which were in existence in the nineteenth century. All of the chairs are tightly positioned close to each other as if confined by the close parameters of a ship. Alcohol is an important element of the dinner with copious amounts of red and white wine poured by stewards in constant attendance: a form of communion between the officers at the tables and at the same time a historical bond. Drinking has always been a visible signifier of the Royal Navy in comparison to the British Army and the Royal Air Force.[29] Towards the end of the meal, the band starts playing sea shanties to which the officers sing and bang the table. The most important part of the dinner concerns the toasts. The entire cutlery is cleared away and small glasses for port and madeira are made available. The port and the madeira are then passed from officer to officer from the left with men pouring for ladies. Great care is taken not to spill them. The loyal toast is made to the Queen and followed by a toast to Nelson. Officers then leave the hall for more drinks in the mess and later, when the senior officers have left, mess games.[30]

STRATEGIC PREFERENCES: DEFENSIVE OR OFFENSIVE?

A great deal of debate has concerned this issue of whether military organizations prefer a defensive or offensive strategy. Much of the contemporary thought focuses on the doctrines that are prevalent within a military institution. One modern definition of doctrine suggests that it is 'a framework of principles, practices and procedures, understanding of which provides a basis for action'.[31] In other words, doctrine represents what is explicitly taught within military establishments about war and fighting. The notion of doctrine raises two key questions concerning the belief system of fighting organizations: first, does doctrine dominate the ideational sources of strategic choice,[32] and secondly, does having a doctrine mean *ipso facto* that it will automatically be translated into strategy in times of hostilities? In the former case, recent research suggests that in war what is written down and explicitly articulated during peacetime tends

to be replaced by traditional modes of fighting. Paul Johnston stresses this point in relation to the British Army's performance in World War II and the US Army's actions in the Gulf War of 1991. In both cases, many years prior to the outbreak of conflict, doctrine manuals in the form of the British 'Field Service Regulations II' and the American 'Field Manual 100-5, *Operations*' emphasized specific types of fighting that were not replicated in actual combat. In fact, these military organizations reverted to traditional methods of warfighting.[33] If this thesis is correct, then, it indicates that doctrine has less impact on military institutions than those innate beliefs about how to fight. Likewise, the melding of doctrine and strategy within a military organization is, by no means, guaranteed. Paret argues that 'strategy is the use of armed force to achieve the military objectives and, by extension, the political purpose of the war'.[34] Clearly the relationship between doctrine and strategy is akin to one of theory and practice, but as warfare can be a rare occurrence in international society for certain countries, are military organizations more likely to utilize tried and tested concepts of war or new (untested) thinking developed in a peacetime environment? This notion is perhaps even more pertinent to naval warfare because it arises less frequently than land warfare.

Several other factors may contribute to a doctrinal memory loss when faced by conflict. Above all things, the actual initiation of war brings a significant amount of chaos to a military organization. Peacetime routines that have dominated the lives of service personnel must suddenly be abandoned for new wartime procedures. The predictability of existence that permeates throughout the military establishment when not fighting is now replaced by uncertainty and danger. This reaction is as old as the history of war itself and even Clausewitz has recorded its impact:

> The second peculiarity in War is the living reaction, and the reciprocal action resulting therefrom. We do not here speak of the difficulty of estimating that reaction, for that is included in the difficulty before mentioned, of treating the moral powers as quantities; but of this, that reciprocal reaction, by its nature, opposes anything like a regular plan. The effect which any measure produces upon the enemy is the most distinct of all the data which action affords; but every theory must keep to classes (or groups) of phenomena, and can never take up the really individual case itself: that must everywhere be left to judgement and talent. It is

> therefore natural that in a business such as War, which in its plan – built upon general circumstances – is so often thwarted by unexpected and singular accidents, more must generally be left to talent; and less use can be made of a *theoretical guide* than in any other.[35]

In the contemporary armed forces, a wealth of doctrine manuals exist and each year more appear to spring up from various staff directorates.[36] It begs the question that in such practical organizations with immense pressure placed on personnel during working hours, how many people get the time to read such publications and more importantly absorb them? If the answer is very few due to the demands of work then, on the outbreak of war, a 'break glass' reaction may occur in which, like the detection of fire in a building, military personnel will unconsciously reach for those ideas that have proven themselves to be effective in the past and that have more resonance with the institution.

If this is the case then celebrated beliefs will have more impact in a military organization than doctrine. Such an idea adds new weight and significance to annual rituals that memorialize warfare. From this perspective, a great deal of information can be gleaned from what appears from the outside to be innocuous events. In the case of Trafalgar night, this ritual lays bare the underlying belief system of the Royal Navy and can account for many of the implicit assumptions of naval officers. It is significant that out of a vast history with a host of famous naval victories that the institution should select just one to represent the essential 'identity' of the Royal Navy. Trafalgar encompasses the ideal image of naval warfare for the Royal Navy and an image that the institution wishes to inculcate into future generations. First and foremost, the ambience of the Senior Gun Room with the entire row upon row of paintings conveys a 'win' culture. All of the portraits represent winners and in most cases, commanders who have made 'big' wins. The psychological corollary is that these images represent what the young officers should aspire to be. Secondly, the image includes an 'offensive spirit' in front of a superior (in terms of size) enemy fleet and the importance of the decisive battle. Nelson had to pursue the French and Spanish fleets in a chase that stretched from Europe to the West Indies before finally engaging the enemy at Trafalgar. Each year, these beliefs, consciously and unconsciously, are reinforced in the officer corps to a greater extent than lengthy and often dry doctrine manuals. Should it be any surprise that a military organization should 'revert to type' on the outbreak of hostilities?

HORATIO NELSON: CULTURAL TOUCHSTONE

One of the most potent symbols within the Royal Navy is that of Horatio Nelson. The selection of Admiral Nelson to represent the 'ideal image' of the complete naval officer from the vast spectrum of distinguished former naval commanders has generated powerful yet often contradictory beliefs within the institution. Nelson spent most of his life at sea, which is still to this day where the front line exists.[37] War provided the environment in which his promotions and career flourished. The Nelsonian image is constructed on the foundation that warfare is the most desirable vehicle toward success in the Royal Navy. Promotion within any organization is dependent on a significant degree of patronage, but in the fighting services, the lack of patronage can be compensated for by success in war, a fact that Nelson recognized.[38] In personal terms, his gender and morals are very significant. Apart from his masculine nature, Nelson is famous for his married mistress Lady Hamilton. This arrangement in the nineteenth century was considered unusual and to some 'ridiculous'[39] but it remains a noteworthy aspect in social memory of this highly complex man. Separating Nelson's personal qualities from his professional ones is a difficult proposition and this aspect of his life can be interpreted as a form of hypersexuality as an acceptable if not desirable characteristic of a naval officer. Through this filter, a successful record in sex and war go hand in hand. Cameron has remarked how the manipulation of gender was important to another famous fighting organization, the US Marine corps in World War II:

> In one sense, the measure of the marines' wartime success is the degree to which their behaviour matched the hypermasculine ideals they extolled. At the heart of the process of institutionalized procreation – of consciously 'making' marines – was the manipulation of gender roles to both define and instil those ideals. Gender-specific archetypes served two militarily useful functions: first, by fostering the emotional separation of marines from civilian society, they created a strong corporate identity with its own rules and values; and second, they generated highly polarized boundaries that reduced any 'outsiders' – broadly defined – into potential objects for violent overthrow.[40]

Gender and its social portrayal is also an important issue in the Royal Navy. All of the portraits in the Senior Gun Room are of men. A cult of masculinity, which inevitably includes male

bonding, does exist within the Royal Navy that is not unnatural for an organization with 99 per cent of its history generated and maintained by men. The introduction of women at sea in 1990[41] has created enormous problems for an institution whose ideal officer led an active life in every sense of the word. The contradiction lies with the institution promoting the role model on a yearly basis and then court-martialling officers who follow his example.

Male bonding is explicitly reinforced by Nelsonian imagery, particularly by the notion of the 'band of brothers'[42] in which success in battle is created by men working closely together, so close that all involved instinctively understand how colleagues will react under the testing circumstances of war. The Royal Navy actively encourages officers from the start of their careers to not only work together but also to be involved in sport and socialize or in other words to spend as much time together as possible. Consequently the levels of interaction are far more intimate than in most other professions, more akin to family than work-mates, and all aspects of personal as well as professional life are known to all. The issue of gender, however, has injected new problems within an institution that promotes close associations between colleagues as the recipe for success. Close relationships between male and female officers (and other ranks) in confined spaces like warships allied with Nelsonian imagery that celebrates hyper-sexuality inevitably creates bonding at the sexual level. Problems may also arise from a conflict of loyalties within the institution, which could manifest themselves in times of war and degrade the efficiency or success of the service. This element remains an unspoken question within the service whose history offers few celebrated examples of successful mixed-gender combat and one that is only likely to be raised in public after tangible experience. Nevertheless, to date even in career patterns, no female officer has risen to the rank of Admiral and it remains to be seen whether gender can break the institutional bias that stems from imagery within the service.

Alvesson has raised the question of the extent to which a founder's influence is retained within organizational cultures[43] and Legro too, has touched lightly on the issue of 'cultural birth'.[44] With regard to the Royal Navy, the original founders have essentially been forgotten to a great extent within the institutional memory and the huge distance in time from point of origin to the present day may account for this fact. However, what do exist are cultural touchstones that help to form the basis of identity within the institution. Cultural touchstones act as instantly accessible

reference points that provide the basis of truth or reality within the institution. In this sense, a generalized but not detailed institutional memory is fostered that forms the basis of assumptions. Hatch suggests that:

> **Assumptions** represent what members believe to be reality and thereby influence what they perceive and how they think and feel. Assumptions are taken for granted. They exist outside ordinary awareness and are, for the most part, inaccessible to consciousness. Try to imagine what a fish thinks about water and you get an idea of the level of awareness cultural members usually have of their basic assumptions. From the perspective of the members of a culture, the set of basic assumptions is truth, and what they assume or believe to be real is generally not open for discussion. This unquestioned 'truth' penetrates every aspect of cultural life and colors all forms of experience that it touches.[45]

Nelson and Trafalgar represent cultural touchstones for the Royal Navy and the preservation of his ship, HMS *Victory* (still a commissioned vessel!), symbolizes their importance to the contemporary Royal Navy. It is significant that after the announcement of the plans to construct two new strike carriers in the *Strategic Defence Review*,[46] the Second Sea Lord held a dinner for senior naval officers on board HMS *Victory* in the cabins that had belonged to Nelson:[47] dining and drinking in the very place in which the most revered victory of the Royal Navy had been planned. The symbolism is self-evident and testimony to the enormous cultural impact of Nelson in the contemporary officer corps. Interestingly, Britain's memorial to Nelson (his column in London) is representative of the historical heights – political and social – that the Royal Navy had attained within the British state in previous centuries. The key difference is that, to the nation in the twenty-first century, Nelson is just a figure of history rather than a symbol of identity whose actions nearly 200 years ago still reverberate loudly within the institution.

SUSTAINING A MILITARY CULTURE

A single ritual like Trafalgar night cannot sustain in the long term widely held beliefs and assumptions among officers in the Royal Navy on a daily basis. It can be extrapolated that though Trafalgar

night is important to the service the ritual does not represent the means by which the Royal Navy maintains adequate levels of inculcation within its personnel on a daily basis. Rosen suggests that military organizations can divorce themselves from their surrounding society as a means of maintaining levels of identity:[48]

> Organizations such as the military have some freedom to isolate their members from society and to develop internal structures that govern their members, and that may differ from those found in the society as a whole. Second, military organizations will be less likely to reflect the structures of the larger society, the more the military organizations are small relative to society, and are isolated from their society – physically, by deployments or by war; temporally, by long service of soldiers and officers in the military away from society; and psychologically, as the result of inculcated professional habits. Military organizations such as navies and air forces, the structures of which are strongly affected by the nature of their tasks by, for example, technological requirements, will also be less affected by the general norms and social structures.[49]

The physical and social environment of an institution is an important factor in shaping the perceptions, beliefs and attitudes of serving personnel. The environment of the Royal Navy is dominated by the image of the surface ship, which forms the parameters of the institutional reality. The ship represents more than just the historical means by which the Royal Navy has traditionally prosecuted warfare at sea. It is a symbol of success and status within the institution. Surface ship personnel, especially officers, are considered to be the cream of the service. Other specializations within the Royal Navy like those of submariners and pilots still attract prejudices within the Royal Navy that such professions are too far removed from the 'adaptable generalist'.[50]

In a physical sense working in a ship or for that matter a shore environment – essentially a concrete ship is universally recognized as being 'on board'. Conceptually this creates an impression of detachment from the rest of society which is reinforced in an actual sense by a physical gap symbolized by either MOD guards or a body of people detailed to be a reception party. No unvetted individual ever wanders about a naval establishment by accident. The interfaces between the institution and society are tightly controlled. In this case, the institution is a closed society operating within the boundaries of the larger and open British society. Physical security of the institutional

environment ensures that there is no competition to the socially constructed boundaries, which are communicated through established norms and values. Norms are used in this description along the lines of Katzenstein's definition:

> The concept of *norm* to describe collective expectations for the proper behaviour of actors with a given identity. In some situations norms operate like rules that define the identity of an actor, thus having 'constitutive effects' that specify what actions will cause relevant others to recognise a particular identity. In other situations norms operate as standards that specify the proper enactment of an already defined identity. In such instances norms have 'regulative' effects that specify standards of proper behaviour. Norms thus either define (or constitute) identities or prescribe (or regulate) behaviour, or they do both.[51]

Norms represent some of the most important 'invisible' aspects of the Royal Navy's institutional culture that are perpetually in motion throughout the service. The high level of consistency between officers in terms of behaviour at the most general level can only be accounted for by the universal adoption of norms. Quantifying and even identifying norms within the Royal Navy is extremely difficult for the outside observer due to the degree of isolation that the service creates around its personnel. In the case of officers, it is clear that many norms revolve around perceived status and role in society. Identity is all-important and those outside of the notional 'band of brothers', particularly civilians, are considered as less important within the institution which has generated a norm of indifference at the social level. Most officers socialize among themselves and civilians are generally treated as the lesser 'other' or people who have not acquired the status of the naval officer.

The Wardroom mess[52] reflects the core norms of naval officers at the behavioural level as it acts as the social heart of the institution. Appearance is all-important. Explicit codes of dress are set out in the 'Mess rules' and anybody no matter what rank who infringes such rules is thrown out of the mess. Mess members must dress for dinner and 'working rig' is simply unacceptable after 7.30 in the evening. Other norms relate to social interaction. No business must be discussed or brought into the mess.[53] Drinking is an important norm among officers and heightened status is achieved in relation to the amount of alcohol consumed. An officer may partake of as much drink as he or she desires so long as that individual is at

his or her post in the morning. The state of the officer is not generally considered to be the most important factor the following day unless in conflict or operating dangerous machinery or in just failing to do his or her duty.

VALUES AND SUBCULTURES

Values represent a deeper level of institutional culture within the Royal Navy and, unlike the more universal norms, tend to be heavily reliant on the degree to which an individual adopts the service format. The levels of value incorporation among officers appears to vary from those who are subsumed to those who superficially accept the institutional bias; generally the distinction is particularly noticeable between individuals with long- or short-term career structures. According to Hatch, values are 'the social principles, goals and standards held within a culture to have intrinsic worth'.[54] Royal Navy values can be separated into two categories: professional and personal. On a professional level, the single almost universal value of the service is a total acceptance that the state needs the navy and that it provides a better protection of the state than the other two services. War, conflict or any use of force has enormous legitimacy within the service in order to perpetuate this state of existence. Underpinning this value is a loyalty to the Queen as head of the state but a realization that politicians will decide how the service will be deployed. Professional values among naval officers are not completely homogenous and can be sharply divided about the primacy of one specialization over another. These specializations or branches represent the subcultural dimension of the officer corps and competition between different parts of the navy, as it is inculcated from the start of their careers, is highly evident. It can be directly compared to the rivalry of the combat arms of the British Army like the infantry, the cavalry and artillery to name a few.[55] In the Royal Navy, executive warfare branch officers (X branch) consider themselves and their technology (ships) as an elite within the service. Submariners are another perceived elite, which hold firmly to the value that submarines are the only units that are permanently on the front line. Aviators have similar feelings about the merit of their specialization. Professional values at the most universal level are unquestioned no matter what the specialization though differences do exist concerning the primacy of the individual branches within the service. In

addition, it should be acknowledged that each subculture will approach operational strategy (not grand strategy) in different ways that is related to the merits of their technology. Put simply, an officer who specializes in submarine warfare, surface warfare or aviation will consider naval strategy from that perspective, through the filter of the capabilities of a specific technology, particularly if they have spent years on operational duties.

Personal values among naval officers vary according to length of service and career path reflecting the degree to which the values of the institutional culture have influenced the individual. Ambition is a strong value for officers who have embarked on a full career within the service, which is systematically encouraged by a selection process to higher rank that revolves around the appointing system. Unlike the British Army, in which officers join a regiment and stay with that regiment for most of their careers, naval officers have a very itinerant working environment that can include a whole host of different ships. A naval officer's career path is overseen if not guided by an appointer who is a more senior naval officer. The appointer examines the performance of the officer in his two-yearly job cycles and evaluates a range of suitable future appointments depending on availability. Jobs within the navy are dependent on three interrelated aspects: first availability, secondly, whether the commanding officer of the vacant position wants that particular officer and thirdly, whether the officer is willing to move to that post. The appointment process by revolving around a two-year cycle encourages officers to be highly ambitious by ensuring that their performance in a particular job must be noteworthy in order to be eligible for the best job in the range of offers available.[56] The 'in zone'[57] categories for promotions also places considerable pressure on officers to be ambitious in order to move higher up within the institution in terms of rank.

INSTITUTIONAL MEMORY AND THE ROYAL NAVY

The existence of institutional memory is a vital facet that facilitates the inculcation of beliefs and assumptions within personnel inside an organization or institution. Memory is an important factor in human relationships for learning and for making choices when faced by dilemmas or crises. It also provides an essential database for achieving the simplest of tasks. Organizations must in addition retain some form of corporate

memory in order to perpetuate beliefs and lessons about specific issues. In relation to Schien's model of artefacts, values, norms, beliefs and assumptions, institutional memory is essential to this process at all levels. Within the institution itself, at the macro-level, the Royal Navy's memory is maintained at a very crude level by tradition. All naval officers in the Royal Navy will know of the battle of Trafalgar because it is celebrated each year but very few will know how the battle was fought. Memory, in this case, is didactically learnt through a social evening but not explored any further and falls into a category of assumption rather than detailed knowledge. Assumptions, however, are assimilated quicker and fit well within the naval pattern of shortening language into abbreviations which when applied to knowledge in the same way facilitates the speed of transmission.

A significant factor that contributes to the limitations on the size of the institutional memory stems from the lifestyle of naval officers at sea working long hours, which does not lend itself to intellectualism and the furtherance of knowledge through reading books.[58] Ships and submarines are demanding isolated communities with highly specialized officers whether engineers, weapons experts or dedicated seaman-officers. Technology in this sense acts as an inhibitor or an element of resistance to the expansion of knowledge through reading due to a lack of time. Danchev's description of Sir Dudley Pound, the First Sea Lord during World War II, captures the sense of how the Royal Navy has historically fostered an inward-looking focus within its officers:

> Sailors, it has been said, are no dialecticians. The second certainty about Pound is that he was strictly parochial. His slow, unimpressive look was indeed very apparent. He was lame, deaf and notoriously somnolent. The last condition in particular, probably a pathological one, elicited a good deal of unfavourable comment. An exasperated Brooke likened him to an old parrot asleep on his perch. In conference it often took the trigger words 'battleship' or 'sea' to rouse him. Even if Pound was as conscientious an adversary as he was an intimate, which is doubtful, his adversarial effort was confined to his own Service. Neither Pound nor Cunningham was in the habit of contesting Churchill in the realm of grand strategy.[59]

It is significant that Pound was orientated so inwardly on his own service, a common norm among naval officers, which can be clearly identified a generation later when the First Sea Lord,

Admiral Sir David Luce, refused to engage the offensive manoeuvres of the Royal Air Force over the aircraft carrier debate.[60] Career environment and inward-looking institutional tendencies have historically generated deleterious effects on the continuing education of the Royal Navy's officer corps.[61] The fostering of intellectualism, inquisitiveness about naval history, or even the other two services is limited[62] by the very nature of maritime work and from the naval officer's career-development programme, which generally entails a two-yearly cycle in different jobs that encompass diverse geographical locations that are global in scope.

Tradition is the highest form of legitimacy for behaviour within a military institution. It represents the official creed and acts as a covenant that binds people in a social sense inside an organization. According to Nora, 'Tradition is memory that has become historically aware of itself'.[63] Traditions are memory chips within military organizations that transmit beliefs through serving personnel. However, the memory chips are not perfect and are liable to corruption over time due to the symbiotic relationship with people. People act as information highways for the transmission of beliefs and in view of the nature of humans with no two individuals being exactly the same; data will alter over time due to the subjective interpretative processes involved. It is inevitable that traditions will alter over time but those most likely to survive over the longest distances in time intact will be the least complex information. Time itself is a degrading process for information transmission within military institutions. Over periods of time that extend beyond the lifetime of individuals, the original reason behind a particular tradition will have been forgotten but remains unquestioned. The continuation of sword drill in the contemporary basic training programme for naval officers in the Royal Navy is a typical example. The sword used to be the personal weapon of a naval officer before the advent of reliable multi-shot pistols. Officers, especially those new to the new service, would be required to practise on a regular basis with such weapons. Swords represented not only a symbol of status for an officer but also more importantly a symbol of militarization or in other words, a means of attack and defence. It was imperative that naval officers were skilled at arms in order to fulfil their primary functions. Today, the sword remains a status/ceremonial symbol in the Royal Navy and young officers spend considerable amounts of time drilling with swords despite the fact that swords have absolutely no relevance in modern naval warfare. Hockey, in his study of a subculture within the British Army, highlights the other dimension of such practices,

by suggesting that 'today drill has no place in an operational context, and its sole value for the organization lies in its socialising potential, and it remains a central means by which recruits are conditioned to respond obediently to commands'.[64] In other words, it is a form of control mechanism.

That said it is still indicative that the institutional culture has forgotten that the sword was first and foremost a weapon and significantly very little small-arms training is experienced by naval officers at basic-training level. Surprisingly, it is quite possible to join the contemporary Royal Navy as an officer and have little or no contact with personal weapons for several years. The source of the institutional memory loss can be traced to the interaction of traditions and personnel who have predominantly served in peacetime environments. In the last fifty years, the Royal Navy was geared toward meeting the demands of the Cold War, which was a military environment that was characterized by very little close interaction with the enemy.[65] The need and justification for personal weapons as well as the costly skills[66] associated with them diminished over time. Thousands of naval officers cycled through the service in this period and naval training establishments reflected their experiences alongside long standing traditions, which held more kudos within the institution. Consequently, the status of the sword has remained high yet the concept of the naval officer being skilled in modern personal weapons, which represent symbols of explicit militarization, has receded. The irony of the current situation is that the institution is now out of sync with the contemporary military environment in which young officers will find themselves engaged in boarding parties for peace-support missions or expeditionary warfare.[67] In both cases, personal weapons and associated training will be essential prerequisites reflecting exactly the militaristic purpose of the sword in the Nelsonian era.

Trophies and traditions represent the macro-level of institutional memory within the Royal Navy, the visual manifestations of beliefs or the 'images of identity' that have been passed, in various forms, from one generation of naval officers to another. At the micro-level, institutional memory is conveyed through the personal experiences of naval officers in peace and war. Naval personnel in peacetime are trained for crisis environments but above all are trained to make decisions. Officers are first and foremost leaders. Within the institution, the training process is highly dependent upon the inculcation of established norms of conduct. For every situation in life, the Royal Navy has a prescribed 'method' to deal with that scenario

from conduct appropriate at cocktail parties to conduct appropriate in war. Unlike universal norms of behaviour that are apparent in mainstream society based on free volition such as silence in cinemas, norms in military institutions are vigorously reinforced by harsh disciplinary powers. In this sense, military norms are a powerful force that shape behaviour. Limitations on behaviour have an enormous effect on the cognition process within personnel. Kier has argued that:

> Organizations' perceptions of their world frame their decisions; this is particularly true of 'total' institutions like the military. Few organizations devote as many resources to the assimilation of their members. The emphasis on ceremony and tradition, and the development of a common language and *esprit de corps*, testify to the strength of the military's organizational culture.[68]

Military norms will determine the response of personnel when faced by a dilemma, in essence providing the choice option within the cognition process. Norms are reinforced within the Royal Navy by an endless process of training, which places each individual officer in a tried and tested environment, and rewards are offered for the adoption of the 'Navy Way'. The *Fundamentals of British Maritime Doctrine* states that:

> Training builds proficiency, cohesion and teamwork. It ranges from individual proficiency training to the conduct of large Task Force exercises which test command and control and the application of doctrine. Training enables operations to continue effectively in the confusion and stress of combat.[69]

Training provides norms in a professional and a social sense, which influences choices for personnel within military institutions. It allows the idea of a 'navy way' of tackling problems to be disseminated among new recruits, in a manner that emphasizes the correct and incorrect methods or simply 'right' and 'wrong'. Naval officers conform not only in terms of appearance but also in terms of thinking.

INSTITUTIONAL CULTURE AND STRATEGIC CULTURE

The relationship between culture and behaviour has raised significant levels of debate within the field of international security,

particularly in the area of strategic culture. The nebulous nature of strategic culture is a problematic area, which Macmillan identifies:

> Understanding strategic culture, however, is not straightforward. Even when you keep in mind the need to know yourself and your enemy, it can be difficult to see things from the point of view of others and to identify your own core beliefs, which may be held at a subconscious level. Beliefs and attitudes, unlike tanks and rockets, cannot be directly observed.[70]

At this level of strategic culture, Macmillan accurately illustrates one of the most difficult aspects to quantify, but his analysis does not apply to the institutional culture of a military service in which these vague elements (beliefs and attitudes) are quite accessible to observation. The issue at the centre of the wider debate concerns the degree to which the concept of strategic culture can be utilized to account for certain specific actions in international relations. According to Farrell:

> This question lies at the heart of the debate between Alastair Johnston and Colin Gray over how to conceptualize strategic culture. Johnston is highly critical of early works on strategic culture (by Colin Gray, among others) for their 'everything but the kitchen sink' approach to the concept. These early scholars saw strategic culture as being shaped by a wide range of factors (e.g., national character, technology, geography) and as encompassing (as Gray put it) both 'modes of thought and action with respect to force'. Johnston finds this concept of strategic culture methodologically flawed as it cannot be falsified: by including all possible causal variables for state action, it does not allow conceptual space for any non-cultural account of state action. In addition, by lumping behaviour in with beliefs, it does not recognise the possibility of inconsistency between strategic thought and state action. For Gray, separating out the components of strategy, and strategic ideas from action, is artificial and meaningless. He chides Johnston for complaining, 'accurately but misguidedly, that there is little conceptual space remaining for explanations of behaviour beyond strategic culture'. Gray considers there to 'be no such conceptual space, because all strategic behaviour is effected by human beings who cannot help but be cultural agents'.[71]

Institutional culture and strategic culture are clearly not the same concept:[72] the former concerns culture in a specific sense within

very narrow parameters, that of a military institution, whereas the latter considers culture from a much broader perspective that includes all aspects of the state. Gray suggests that:

> In addition to countries having one or more strategic cultures, they also have several military cultures. Military cultures can be specific to armed service, branch of service, or trans-service function or weapons focus (e.g. 'special' warriors, aviators, and nuclear missileers). There is an emerging literature on military culture which, though scholarly, is in the great tradition of strategic studies in that it has been triggered by perceptions of the problems of the day. Military culture(s) cannot be studied apart from their broader context, but to date scholarship has little to offer on the subject of how that kind of culture relates to the character of strategic culture discussed here.[73]

A Cultural Intervention: The Falklands Conflict

The two concepts of institutional and strategic culture are not mutually exclusive and at times, as in the case of the Falklands Crisis in 1982, the former significantly influenced the reaction of the British state with the intervention of the First Sea Lord in the crisis-management process. Britain's decision to use force to resolve the issue of the Argentine invasion was extraordinary. First, it represented a distinct break with Margaret Thatcher's previous emphasis on a negotiations process. The Conservative government did not, unlike the Labour administration under Callaghan, use the threat of force to reinforce diplomacy.[74] In fact, its defence policy with the 1981 Defence Review, *The Way Forward* (Cmnd 8288) and the emphasis on severely reducing the strength of the Royal Navy's conventional fleet provoked the opposite effect.[75] The most immediate consequence, apart from nullifying Britain's ability to regain the Falklands in the short term with the reduction of surface forces and specialized amphibious shipping, was the removal of the symbol of the nation's presence in the region, the patrol ship, HMS *Endurance*. With hindsight, Sir John Nott regrets refusing pleas from the Foreign and Commonwealth Office (FCO) under Lord Carrington to reprieve the ship for diplomatic purposes[76] but its publicly announced withdrawal was a powerful signal to Argentina that was reportedly said to have considered it as 'a political gesture' concerning the protection of the islands.[77]

The critical crisis meeting of 31 March in Margaret Thatcher's

private chambers in the House of Commons radically altered the course of British diplomacy to the now anticipated (from intelligence sources) Argentine invasion of the Falklands Islands on 2 April. The intervention of the First Sea Lord, Sir Henry Leach, was quite by accident. He was looking for John Nott to discuss the last intelligence reports of Argentina's intentions. Nott's recently published memoirs offer a rare insight of the psychological impression of Sir Henry's contribution to the meeting on the Prime Minister:

> At this juncture, a secretary took me aside and said that Henry Leach was outside the Prime Minister's room and had asked to see me. After I had suggested to Margaret Thatcher that he should join us, Henry did so in full naval uniform. The sight of a man in uniform always pleases the ladies and Margaret, very much an impressionable lady, was always impressed by men in uniform. She asked for Henry's views. With great assurance, he said that it was possible to prepare a large task force. This would include *Hermes* and *Invincible*, together with the greater part of our destroyer and frigate forces, which were exercising off Gibraltar. He declared that the task force could be ready to sail early the following week, so long as he had authority to prepare it, with instructions to sail to follow later. This assertion greatly boosted the confidence of Margaret Thatcher; it was met by some scepticism among the rest of us.[78]

The Defence Secretary's account of this meeting adds a unique gender equation into the debate about why Margaret Thatcher took the decision to use force and, though the order to sail the fleet was not given until two days later, the weight of evidence suggests that the Royal Navy's intervention at this particular moment fundamentally altered the course of British policy. Much speculation exists within the literature as to why the First Sea Lord took this course of action. Inevitably, a great deal implies that Sir Henry Leach seized his opportunity to save the Navy from the axe of the 1981 defence review.[79] This argument is undermined by several factors, the most notable of which was that victory was not a foregone conclusion. The single biggest impediment to the British forces was distance. According to the Franks Report, the Falkland Islands are 6,761 nautical miles from the United Kingdom[80] though in the bulk of the literature, 8,000 (statute) miles is more commonly used. In addition, Argentine forces possessed the bulk of the strategic advantages not only from being closer to the islands (around 400 miles distance at a

given point)[81] but they could also devote their entire military assets to this venture. As the official British report into the lessons of the Falklands campaign notes, the Argentine Air Force outnumbered the British aircraft by 'more than six to one'.[82] The loss of a quite old fleet[83] in action against a developing country located in South America would have done far more damage than any Defence Secretary looking to save money from his budget by cutting back on ships.

Perhaps the source of the First Sea Lord's reasoning stems not so much from the desire for political gain (though it would be part of the prize for winning) but rather from a more powerful motivating force, institutional culture. To get to the position of First Sea Lord, the institution selects the officer that reflects the cultural values of the service to a greater degree than his or her contemporaries. In addition, Sir Henry was no stranger to warfare having served with distinction in the Royal Navy during World War II, most notably on board HMS *Duke of York* that sank the *Scharnhorst* on 26 December 1943. Furthermore, attacking an enemy that possesses superior qualities either numerically or qualitatively and still winning was not unusual for the Royal Navy. Nelson did it at Trafalgar, and Cunningham as well as Vian did it on a regular basis during the battles in the Mediterranean Sea in World War II.[84] Sir Henry Leach's intervention at the meeting of 31 March was entirely consistent with the institutional culture of the Royal Navy and suggests that it is likely that any naval officer in his position would have proffered (and will in the future) the same advice.

During the Falklands Conflict – for a brief moment – Britain's strategic culture darkened to a deep blue which reflected the influence of the Royal Navy's institutional culture in the same way that a non-permanent dye colours an object brightly at first but after a relatively short period washes away. From this perspective, the relationship between a military's institutional culture and the nation's strategic culture is haphazard. For most of the time, especially during peace, the effect will be minimal and other dimensions of the state will determine the hue of Britain's strategic culture. In times of crisis, the colour of the dye will depend on the lead military service: red for the British Army, dark blue for the Royal Navy and light blue for the Royal Air Force. The differences between the colours of Britain's military forces aptly reflect the huge distinctions between their institutional cultures.

Focusing directly on the Royal Navy's institutional culture

as opposed to the notion of strategic culture, behaviour is clearly influenced to a large degree by norms that originate from within the service. In an age in which naval warfare has become an increasingly rare phenomenon, military organizations must refer to norms, beliefs and values – all products of the corporate imagination as to what is the best way to prepare for war. As Cameron remarks:

> All military actions and decisions, in one way or another, might ultimately be characterized as outgrowths of myth and imaginations. No modern army enters combat *tabula rasa*. It prepares for battle on an institutional level in how it organizes, equips, and trains its forces, and individuals steel themselves according to a wide array of customs and beliefs. By definition, preparation, whether by a staff planner or a common soldier, begins with the imagination – with the construction of expectations for what lies ahead. By projecting their assumptions onto people, events, and situations, combatants actively shape the landscape in which they must kill and destroy.[85]

Training for specific scenarios reinforces the directions for choosing a specific solution over another. Johnston argues that, 'Cultural patterns and behavioural patterns are not the same thing: in so far as culture affects behaviour, it does so by limiting options and by affecting how members of these cultures learn from interaction with the environment'.[86] Kier agrees with this line of argument concerning limitations, which she interprets as constraints.[87] Within military institutions, however, the combination of training, norms and values generates enormous consistency from the lowest levels of the officer structure to the highest in terms of decision-making for given scenarios. Terminology such as 'limit' and 'constraint' suggest a higher degree of latitude than that which is apparent within military institutions. Ultimately decisions come down to a simple 'Yes' or 'No'. An affirmative response is a positive sign of strength within military institutions. A negative one in contrast is perceived as a form of weakness. Officers' promotions depend more on the positive rather than the negative so that choices available within militaries are probably considerably less than either Johnston or Kier acknowledges. All these factors provide parameters of cognition and reasoning within a military institution, which is reinforced by a process of preparing for the event.

NOTES

1. Modern instruments of war dominate the visual perception of conflict, and contemporary research suggests that the quality of modern military technology far outweighs the benefits of quantity that characterized fighting during World War II. See Eliot Cohen, 'Technology and Warfare', in J. Baylis, J. Wirtz, E. Cohen and C. S. Gray (eds), *Strategy in the Contemporary World: An Introduction to Strategic Studies* (Oxford: Oxford University Press, 2002), p. 244.
2. The world population stands at around six billion people but the numbers of those dedicated to military affairs is measured in just millions. Clearly, the majority of global society are not warriors. In Britain, the ratios are even more apparent with less than 0.3 per cent of the population serving in the armed forces.
3. See C. von Clausewitz, *On War* (London: Kegan Paul, Trench, Trubner, 1911), p. 23.
4. In recent times, a concern has arisen over the number of non-combat deaths that have occurred in the British Army at Deepcut Barracks in Surrey. Such is the importance of the trust factor with society that parliamentary questions have been raised about the issue and a civilian police investigation has been sanctioned to look into this spate of mysterious 'suicides'. See A. Clennell, 'Police Widen Deepcut Deaths Inquiry', *Guardian*, 21 October 2002, p. 5.
5. Prince Charles served in the Royal Navy in the 1970s and Prince Andrew retired from the service in 2001.
6. A photograph exists in the archives of Britannia Royal Naval College that shows the teenage Princess Elizabeth meeting the dashing young naval officer who would become Prince Philip.
7. Britain faced the possible threat of invasion in World War I and II though more so in the latter case.
8. See A. Finlan, M. J. Grove and P. D. Grove, *The Second World War: The War at Sea* (Oxford: Osprey, 2002), p. 90.
9. Bernard Brodie set out this explicit purpose of military institutions when he first wrote about the significance of the atomic bomb. See B. Brodie, *The Absolute Weapon* (New York: Harcourt Brace, 1946), p. 76 and Brodie, *War and Politics* (London: Cassell, 1973) p. 377.
10. Much of the recent literature has looked at how culture operates within military organizations or the notion of strategic culture. See C. Cameron, *American Samurai: Myth, Imagination and the Conduct of Battle in the First Marine Division 1941–1951* (Cambridge: Cambridge University Press, 2002); T. Farrell, 'Review Article: Figuring out Fighting Organisations: The New Organisational Analysis in Strategic Studies', *Journal of Strategic Studies*, 19, 1 (1996), pp. 122–35; Farrell, 'Culture and Military Power', *Review of International Studies* 24 (1998), pp. 407–16; idem 'Professionalism and Suicidal Defence Planning by the Irish Army, 1921–1941', *Journal of Strategic Studies*, 21, 3 (1998), pp. 67–85; C. Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999); A. I. Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton: Princeton University Press, 1995); Johnston, 'Thinking about Strategic Culture', *International Security*, 19, 4 (1995), pp. 32–64; E. Kier, *Imagining War: French and British Military Doctrine between the Wars* (Princeton: Princeton University Press, 1999); Kier, 'Culture and Military Doctrine – France between the Wars', *International Security*, 19, 4 (1995), pp. 65–93; J. W. Legro, *Cooperation under Fire: Anglo-German Restraint During World War II* (Ithaca, NY: Cornell University Press, 1995) and Legro, 'Military Culture and Inadvertent Escalation in World War II', *International Security*, 18, 4 (1994), pp. 108–42.
11. Johnston, *Cultural Realism*, p. 35.
12. Kier, *Imagining War*, p. 30.
13. The author spent four years working as a civilian lecturer at Britannia Royal Naval College while writing the PhD on which part of this study is based.
14. Legro, *Cooperation under Fire*, p. 22.
15. Edgar H. Schien, *Organizational Culture and Leadership* (Oxford: Jossey-Bass Publishers,1991), p. 14.
16. J. Garnett, 'The Causes of War and the Conditions of Peace', in Baylis, Wirtz, Cohen and Gray (eds), *Strategy in the Contemporary World*, p. 75.
17. Kier, 'Culture and Military Doctrine', p. 71.

18. 'Run ashore' is a naval term for any activity (usually social) that occurs outside the perimeter of a military base or beyond the confines of a ship in port.
19. Legro, 'Military Culture and Inadvertent Escalation in World War II', p. 116.
20. See K. Krause and M. C. Williams (eds), *Critical Security Studies: Concepts and Cases* (Minneapolis, MA: University of Minnesota Press, 1997), p. xv.
21. M. Alvesson, *Cultural Perspectives on Organizations* (New York: Cambridge University Press, 1993), p. 81.
22. *The Queen's Regulations for the Royal Navy*, BR 2 (London: HMSO, 1989).
23. The sense of detachment inside a military establishment with wider society is palpable when combined with heavy working schedules. It is quite possible, even for civilians, to develop very inward-looking perspectives because the organization dominates their existence not only physically but also socially.
24. Johnston raises the notion of 'basic assumptions about the orderliness of the strategic environment' that has a degree of congruence with assumptions within the Royal Navy about warfare; see Johnston, *Cultural Realism*, p. 37.
25. Young officers in Dartmouth have some contact with their counterparts at the Royal Military Academy, Sandhurst and the Royal Air Force's Cranwell but it is usually in the form of sport. The objective of such encounters is ostensibly good-natured (but serious) competition that ultimately emphasizes difference between the three services. Naval officers generally have more contact with Royal Marine officers based at the Commando Training Centre Royal Marines at Lympstone just 30 miles from Dartmouth.
26. HMS *Britannia*, the namesake of the naval college, was one of the ships that helped secure Nelson's famous victory off Cape Trafalgar and sailed in the same attacking column as HMS *Victory*.
27. Trafalgar night is still a training evolution for officer cadets in the naval college. Each one is assigned a member of staff (civilian and military) to host who will provide the directing officer (DO) of that officer cadet with a subsequent small report on his or her behaviour during the evening. Key areas will encompass the social skills of the officer cadet, the extent to which he or she exudes naval values and his or her judgement concerning the consumption of alcohol.
28. The idea of people wandering in and out of the meal in response to calls of nature is an anathema to the Royal Navy. First, it would interrupt the ritual and, secondly, it would upset the atmosphere of order as well as centralized command even if it does encompass biological functions.
29. A significant societal perception in Britain, celebrated in childhood songs is of 'drunken sailors' rather than soldiers and air personnel who are equally fond of such predilections.
30. Mess games are almost a release valve for the strict discipline of the dinner itself. They involve often intensively physical activities like a form of rugby in a very confined space (the Mess) or the construction of human pyramids to enable people to write their names on ceilings that are often over 20 ft in height. Accidents are common and many officers suffer broken bones, but status is acquired by taking part and the bonds between personnel are significantly enhanced.
31. *The Fundamentals of British Maritime Doctrine*, BR 1806 (1st edn) (London: HMSO, 1995), p. 12.
32. Johnston, *Cultural Realism*, p. 4.
33. P. Johnston, 'Doctrine is Not Enough: The Effect of Doctrine on the Behaviour of Armies', PARAMETERS (Autumn 2000), www.army.mil/usawc/Parameters/00autumn/johnston.htm
34. P. Paret, 'Introduction', in P. Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Oxford: Clarendon, 1986), p. 3.
35. Clausewitz, *On War*, p. 105.
36. See *Fundamentals of British Maritime Doctrine*, BR 1806 (1st edn); *British Maritime Doctrine* BR 1806 (2nd edn) (London: TSO, 1999); *British Defence Doctrine*, Joint Warfare Publication 0-01 (London: MoD, 1996); *Air Power Doctrine*, AP 3000 (2nd edn) (London: HMSO, 1993); *Design for Military Operations – The British Military Doctrine* (London: HMSO, 1989). All of these publications have been updated in recent years.
37. The front line has a mythical quality in the naval college but clearly it is somewhere at sea. Given the history of the last 50 years, in which the incidents of major naval combat can be counted on one hand (Suez in 1956, the Falklands in 1982 and the Gulf

War of 1991), it is likely if the pattern continues that the majority of naval officers will not hear a shot in anger. Nelson, in contrast, had experienced over 100 personal engagements with the enemy before Trafalgar.

38. See N. Tracy, *Nelson's Battles: The Art of Victory in the Age of Sail* (London: Caxton Editions, 2001), p. 10.
39. Ibid, p. 130.
40. Cameron, *American Samurai*, p. 49.
41. One of the first ships to accept female sailors was the Type 22 frigate, HMS *Brilliant*.
42. This is another gender-loaded term that has enormous significance for the Royal Navy. Much of Nelson's success has been interpreted as stemming from the fact that his subordinate commanders knew precisely what to do in battle without having to constantly refer to his signals. See 'The Nelson Touch' in *British Maritime Strategy* (2nd edn) (no page number).
43. Alvesson, *Cultural Perspectives on Organizations*, p. 86.
44. Legro, *Cooperation Under Fire*, p. 24. See also Farrell, 'Culture and Military Power', p. 411.
45. M. J. Hatch, *Organization Theory: Modern, Symbolic and Postmodern Perspectives* (New York: Oxford University Press, 1997), p. 210 (bold font is original emphasis).
46. *The Strategic Defence Review*, Cm 3999 (London: The Stationery Office, 1998), p. 38.
47. The Commodore of Britannia Royal Naval College was invited to attend this dinner.
48. S. P. Rosen, 'Military Effectiveness – Why Society Matters', *International Security*, 19, 4 (1995), p. 6.
49. Ibid, p. 29.
50. C. Downes, *Special Trust and Confidence: The Making of an Officer* (London: Frank Cass, 1991), p. 177.
51. P. Katzenstein (ed.), *The Culture of National Security: Norms and Identity in World Politics* (New York: Columbia University Press, 1996), p. 5.
52. The Wardroom mess is the inner sanctum of the officer corps. Interestingly, the Commodore of the naval college rarely enters this room unless invited in by other officers. It is run by the Mess President or the Commander, the second most senior officer, who has total authority over officers, lecturers and even their guests that includes spouses within its confines and it is a forum where officers can generally relax from the pressures of work. Young officers with the exception of the 'Senior Sub-Lieutenant' (and then only for special occasions) are forbidden to be in the mess.
53. All of the accoutrements of work from caps to files must be left outside the mess. Unaware guests who produce working papers from their pockets are quickly informed by mess members to put them out of sight.
54. Hatch, *Organization Theory*, p. 214.
55. An excellent study of the British Army's subcultural dimension is offered by John Hockey in his book, *Squaddies: Portrait of a Subculture* (Exeter: Exeter University Press, 1986).
56. The inherent danger of this system is the prevalence of short-term attitudes towards appointments and that officers may be (not always) tempted to orientate performances toward the appointer rather than the job in hand. In other words, an officer may desire to do something noteworthy at the start of taking up a new post – a change of some description – but inevitably will not reap the medium-term consequences of those alterations because by that stage he or she will have moved on to another position. The pitfall for the institution itself is that military establishments or ships may be caught up in a two-yearly cycle of change that generates significant levels of turmoil for other personnel trying to accommodate the alterations.
57. 'In Zone' is a term used for an officer who is eligible for a higher rank.
58. A popular notion among naval officers educated in the British fashion is the idea of the 'simple straightforward sailor' who contains 'a 'healthy' scepticism of strategic theories in favour of 'common sense'. The attitudes adopted are not much different from the amused tolerance that practical people everywhere have for 'book learning', See Rear Admiral R. Menon, *Maritime Strategy and Continental Wars* (London: Frank Cass, 1998), p. xv.
59. A. Danchev, 'Waltzing with Winston: Civil-Military Relations in Britain in the Second World War', *War In History*, 2, 2 (1995), p. 228.
60. The loss of the future aircraft carrier, CVA-01 and its sister ships in 1966 when the government cancelled the programme can only be described as one of the most

traumatic periods in the history of the Royal Navy. See E. J. Grove, *Vanguard to Trident: British Naval Policy since World War II* (Annapolis: Naval Institute Press, 1987), pp. 272–80 for a discussion of this difficult time for the service.

61. The demanding environment of warships and the poor impact on the education of officers has historically been a notable feature of naval life, especially in the nineteenth century. See H. Dickinson, 'Britannia at Portsmouth and Portland', *Mariner's Mirror*, 84, 4 (1998), p. 434.
62. In recent years, the Royal Navy in concert with the other two services has tried to encourage a joint service approach in which relatively junior officers experience so-called purple environments like the tri-service staff college at Shrivenham or the Permanent Joint Headquarters at Northwood.
63. P. Nora, *Realms of Memory – The Construction of the French Past, Vol. II* (New York: Columbia University Press, 1997), p. ix.
64. Hockey, *Squaddies*, p. 22.
65. The exceptions were the nuclear-powered submarines of the Royal Navy operating on recently revealed classified missions against Soviet submarines but for the large part the bulk of the surface fleet had little contact apart from chasing sonar contacts either in the North Atlantic or the North Sea area. This period of time witnessed a de-emphasis in gun technology in the fleet, dealing with weapons from large-calibre guns through to personal weapons. The latest frigate in the fleet by 1980, the Type 22 Batch I did not even possess a 4.5-inch gun that was standard equipment on previous ships of this category.
66. All recruits in the Royal Navy who have received small-arms training must annually renew their status to fire weapons with a test. It is a relatively expensive exercise if measured over an individual's entire career.
67. A renewed interest in expeditionary warfare has emerged in the light of the end of the Cold War and such thinking is reflected in the new ideas encapsulated in Royal Navy's 'Maritime Manoeuvre' concept that was fleshed out in the mid to late 1990s.
68. Kier, 'Culture and Military Doctrine', p. 69.
69. *Fundamentals of British Maritime Doctrine*, BR 1806 (1st edn), p. 180.
70. A. Macmillan, 'Strategic Culture and National Ways in Warfare: The British Case', *JRUSI*, 140, 5 (1995), p. 34. See also Macmillan, 'Culture and Conflict in the Post-Cold War World', in M. Jane Davis (ed.), *Security Issues in the Post-Cold War World* (Cheltenham: Edward Elgar, 1996), pp. 57–72.
71. Farrell, 'Culture and Military Power', p. 408.
72. Kier, *Imagining War*, p. 30.
73. Gray, *Modern Strategy*, p. 146.
74. Britain's Prime Minister, James Callaghan, sent two frigates and a nuclear-powered submarine to the South Atlantic in late 1977 to support negotiations with Argentina over the Falkland Islands *if necessary* (my emphasis). Despite doubts raised in the Franks Report as to whether the opposition knew about the deployment, Argentina decided not to use force concerning the Falklands Islands that year. See extract from the Franks Report in Tim Coates (ed.), *War in the Falklands 1982* (London: The Stationery Office, 2001), p. 52 and p. 100 respectively.
75. Under the auspices of the 1981 defence review (in view of its focus on the surface fleet), the Royal Navy would retain just two instead of three aircraft carriers (with the rather old HMS *Hermes* to be phased out and the brand new HMS *Invincible* to be sold to Australia) and reduce its forces of frigates and destroyers from 59 to around 50. The ageing amphibious ships, HMS *Fearless* and HMS *Intrepid* would also be withdrawn from service early in the period from 1982–1984. See *United Kingdom Defence Programme: The Way Forward*, Cmnd 8288 (London: HMSO, 1981), paras 27–31, p. 10.
76. J. Nott, *Here Today, Gone Tomorrow: Recollections of an Errant Politician* (London: Politico's, 2002), p. 255.
77. L. Freedman and V. Gamba-Stonehouse, *Signals of War: The Falklands Conflict of 1982* (Princeton: Princeton University Press, 1991), p. 20.
78. J. Nott, *Here Today, Gone Tomorrow*, pp. 257–8.
79. See M. Charlton, *The Little Platoon: Diplomacy and the Falklands Dispute* (Oxford: Basil Blackwell, 1989), pp. 189–90, who puts this question directly to Sir Henry Leach in an interview and H. Strachan, *The Politics of the British Army* (Oxford: Clarendon, 1997), pp. 254–5.
80. *The Franks Report*, Cmnd 8787 (London: Pimlico, 1992), p. 106.

81. *The Falklands Campaign: The Lessons*, Cmnd 8758 (London: HMSO, 1982), para 107, p. 6.
82. Ibid., para 108, p. 6.
83. The flagship of the Task Force, HMS *Hermes*, was 23 years old in 1982; 13 RN warships/submarines were more than 14 years old, not to mention all of the RFA Landing Ship Logistics (LSLs) which fall into the same age bracket. See D. Brown, *The Royal Navy and the Falklands War* (London: Leo Cooper, 1987), pp. 358–65. Only three of the ships possessed the latest Sea Wolf missile system and just two of these were Type 22 Batch I (the most advanced frigate in the Royal Navy).
84. The battle of Matapan (28 March 1941) and the battles of Sirte (17 December 1941 and 22 March 1942) are good examples of aggressive yet inferior Royal Navy units defeating more powerful Italian forces. Correlli Barnett in his excellent book, *Engage the Enemy More Closely* (London: Penguin, 2000) suggests that the failure of the often superior Italian fleet to defeat the much smaller Royal Navy can be attributed in part to an absence of a battle history (and the accompanying tradition within its institution).
85. Cameron, *American Samurai*, pp. 269–70.
86. Johnston, 'Thinking about Strategic Culture', p. 45.
87. Kier, 'Culture and Military Doctrine', p. 78.

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Culture, Strategy and the Falklands Conflict

The early 1980s proved to be a particularly traumatic time for the Royal Navy. The economic crisis that was gripping the nation prompted a re-examination of government defence spending and the spotlight fell on the Royal Navy. A new Defence Minister, John Nott, raised fundamental questions about the nature of its existence and concurrent cost to which the service struggled to respond in a politically effective manner. It was the height of the Cold War and British naval strategy had become heavily orientated toward the threat from the Soviet Union and anti-submarine operations. Sea-control strategies and the maintenance of a wide range of capabilities like amphibious warships were the hallmark of this era. The dominance of surface ships within the Royal Navy reflected the preferences of institution toward this type of warfare.[1] Governments immediately prior to the Thatcher administration had also been willing to fund such an explicit bias within the service and the Royal Navy perpetuated the implicit preferences of the service through the inculcation in future naval officers of the historic experiences of the service. In contrast, Margaret Thatcher's government wanted to provoke significant changes in the strategic outlook of the Royal Navy through the 1981 defence review. John Nott failed to recognize the existence of an underlying philosophy towards naval strategy; consequently, his measures did not alter the institutional bias of the Royal Navy. The new strategic vision of the government promoted capabilities that had traditionally lower status within the Senior Service, particularly nuclear weapons and nuclear-powered submarines.

NAVAL PHILOSOPHY AND NAVAL THEORY

Military force, of whatever nature, does not possess a universal methodology. Nations and their institutions dedicated to this destructive facet of human nature fight differently. It is a notion that has been put forward by Gray, in his analysis of 'national styles' concerning security, who argues that 'the idea of national style is logically derived from the concept of political culture: a particular culture should encourage a particular style in thought and action'.[2] Military cultures generate distinctive styles in terms of strategy. Each culture will deliberately create a means to perpetuate a particular style of warfare. The Royal Navy utilizes an underlying philosophy in order to foster such a style – one that emphasizes the spirit of the offensive and the desire to take the battle to the enemy. The second edition of the official statement of *British Maritime Doctrine*, BR 1806, labels the philosophical bridge that spans the unwritten gap between officers as a form of 'empathy':

> A fine example of empathy between commanders and mutual comprehension working at all levels is the executive order given by Lord Barham, First Lord of the Admiralty, to Lord Nelson for the final phase of the campaign of Trafalgar. The order told Nelson to sail in the *VICTORY*, collecting other ships on passage down the Channel, to take command of the squadrons of Admirals Calder and Collingwood, blockade Cadiz, reinforce Gibraltar and reorganise an enlarged area of command. No where does the order tell Nelson how to perform these tasks. Rather, the order begins, '…as your judgement seems best…' and ends, '…from the opinion we entertain of your conduct and abilities…you will proceed to form the best system of so extensive a command that circumstances may admit of…'. These two phrases are, of course, the key to understanding the order and its successful outcome. Such an order was only possible because Barham and Nelson were each confident that they were following a common strategy and that they shared the same doctrine, that both knew what the other meant and could be relied upon to act accordingly, using judgement and experience. The order was written in less than 250 words.[3]

The term 'empathy' fails adequately to describe the levels of understanding between the two officers in terms of application of strategy. It is a limited interpretation, concerning specific individual officers with finite lifespans that does not fully

encapsulate the wider institutional processes that regenerate the same commonly held beliefs about how to fight warfare over much longer periods of time. Only a shared philosophy can explain why the officer corps within the Royal Navy has managed to keep alive traditional notions about how to prosecute warfare at sea over hundreds of years. Empathy lasts a lifetime, philosophy lives for as long as the institution that perpetuates it.

The spirit of the offensive is a particularly strong strand of the Royal Navy's institutional philosophy that can be clearly identified throughout the major naval wars of the twentieth century. Admiral Viscount Jellicoe, the commander of the powerful Grand Fleet at the battle of Jutland in World War I, wrote after the fighting that:

> The main objects for which our Navy exists may be shortly summed up under four heads:
>
> 1. To ensure for British ships the unimpeded use of the sea, this being vital to the existence of an island nation, particularly one which is not self-supporting in regard to food.
> 2. In the event of war, to bring steady economic pressure to bear on our adversary by denying to him the use of the sea, thus compelling him to accept peace.
> 3. Similarly in the event of war, to cover the passage and assist any army sent over seas, and to protect its communications and supplies.
> 4. To prevent invasion of this country and its overseas Dominions by enemy forces.
>
> The above objects are achieved in the quickest and surest manner by destroying the enemy's armed naval forces, and this is therefore the first objective of our Fleet. The Fleet exists to achieve victory.[4]

The desire to close quickly with the enemy and destroy the opposing forces in battle is a remarkably consistent and enduring feature of the Navy's philosophy. Roskill records of Britain's naval strategy in World War II that, 'the Admiralty emphasised in the war plans that senior officers should lose no opportunity for local and tactical offensives by "bringing the enemy to action wherever and whenever his forces can be met"'.[5] This particular aspect of the commonly adopted philosophy has hardly altered

since Nelson's time and continues to manifest itself in recent naval engagements such as the Falklands Conflict.

Naval strategy has always been highly complex in relation to other forms of military planning focused on land or in the air. Strategic thinking concerning the sea has historically developed later than land warfare due to technological constraints. Combat on land is relatively simple, requiring two opposing forces to meet on the same territory. Sea warfare, however, is considerably more difficult. Adversaries must allocate valuable strategic resources from wood to metals and develop labour-intensive production processes such as shipbuilding simply to build a platform to fight on. The value of such platforms due to the effort in creating such a vessel is much higher than comparative land equivalents such as a squadron of tanks. Furthermore, the element of risk is enhanced by the concentration of personnel on a single platform. The difficulty in prosecuting naval warfare has created an exclusive nature or rareness to the concept of strategy at sea. A consequence of the exclusiveness of sea combat has been a concurrent paucity of experience concerning actual large-scale naval warfare. Till reveals uncertainties concerning warfare at sea in the nineteenth century:

> Radicals and conservatives alike pointed out the absence of real experience of naval warfare at this time. There had been important naval battles, such as Navarino (1827), Sinope (1853) and Lissa (1866) but no major maritime wars between significant naval powers. As a result naval opinion was as uncertain about the nature of warfare at sea in 1890 as it had ever been before or since.[6]

In the latter twentieth century not a great deal had changed because naval warfare was, and still is today, a very rare occurrence. In the case of the Falklands Conflict, it represented the most important example of modern combat for the Royal Navy since 1945.

Naval strategy as a subject of study surprisingly demonstrates a relative shortage of major theorists, more apparent now than ever in the field of contemporary international relations. The high point of naval theory resides in the late nineteenth and early twentieth centuries. The *Fundamentals of British Maritime Doctrine* refers to 'Distinguished theorists of maritime strategy, such as Vice Admiral Sir Philip Colomb (1832–1899), Rear Admiral Alfred Thayer Mahan USN (1840–1914), Sir Julian Corbett (1854–1922) and Admiral Sir Herbert Richmond (1871–1946)'.[7] Of these, Mahan represents one of the most influential thinkers in naval

strategy whose theories, particularly the existence of general principles, still contain fundamental insight. According to Mahan:

> a precedent is different from and less valuable than a principle. The former may be originally faulty, or may cease to apply through change of circumstances; the latter has its root in the essential nature of things, and, however various its application as conditions change, remains a standard to which action must conform to attain success. War has such principles; their existence is detected by the study of the past, which reveals them in successes and in failures, the same from age to age. Conditions and weapons change; but to cope with the one or successfully wield the others, respect must be had to these constant teachings of history in the tactics of the battlefield, or in those wider operations of war which are comprised under the name of strategy.[8]

The narrow base of theory surrounding naval strategy, usually dominated by former servicemen, has created an enigmatic quality surrounding the subject, which is compounded by an exclusive nature. Strategy at sea is the dominion of specialists usually located inside navies. Consequently, the conceptual foundations of contemporary British naval strategy are to be found inside the Royal Navy. Corbett adds a particularly important caveat about 'thinking' concerning naval strategy:

> It discloses, in short, that naval strategy is not a thing by itself, that its problems can seldom or never be solved on naval considerations alone, but that it is only a part of maritime strategy – the higher learning which teaches us that for a maritime State to make successful war and to realise her special strength, army and navy must be used and thought of as instruments no less intimately connected than are the three arms ashore.[9]

Corbett stressed the higher connections between naval strategy, policy and what would be termed today as British defence policy. From this perspective, significant changes in one area will inevitably lead to significant changes in other areas. The importance of Mahan and Corbett to naval strategy resides in the relative popularity of their ideas within society at the time, particularly to governments. One commentator refers to the writings of Mahan: 'despite its dreary provenance and its uncompromisingly historical approach, it somehow captured the spirit of the times, sold all round the world in its tens of thousands and helped to transform the habits of thought of a

whole generation'.[10] Corbett was also an influential figure in his day, which was reflected in his position as an adviser to Admiral Sir John Fisher.[11] By the 1980s, no comparable writer on naval strategy[12] in terms of influence existed in Britain, and this has had several consequences, most notably a lack of societal interest in naval affairs. In democracies, this factor – the interest of the nation in a particular issue – can sway the actions of the administration concerning policies. Furthermore, without broad public interest, there is also a danger that governments may trivialize the finer nuances of their actions on British naval strategy because the domestic political consequences are considerably less than other issues.

BRITISH NAVAL STRATEGY IN THE 1980s

Despite the proposed reductions in the size of the fleet, the Royal Navy in 1982 represented the third most powerful naval force in the world after the United States and the Soviet Union, capable of operating across the entire spectrum of the maritime environment. The force composition of the Royal Navy reflected an emphasis on surface forces rather than submarines, which comprised only 30 per cent of the major combat units.[13] The mixture of surface forces to submarines was indicative of an overall orientation toward a sea-control strategy rather than sea denial. The continuation of the Cold War during this period dominated British strategic thinking concerning naval forces and future applications. The *Statement on the Defence Estimates* (1981) reveals that

> The conventional defence of Central Europe depends crucially on transatlantic reinforcement and resupply. Despite the major improvements now planned in airlift and pre-stocking, the bulk of equipment and resupply would have to come by sea. In addition, the economic survival of the European members of NATO, and the United Kingdom in particular, depends on trade and raw materials from overseas.[14]

In this respect, the Royal Navy's role in the event of the Cold War turning 'hot' was clear: a naval strategy that was constructed around the NATO alliance and the defence of Western Europe. This would entail a heavy emphasis on protecting the transatlantic convoys that were so critical in the envisaged war

with the Soviet Union. Added to this vital resupply element of NATO strategy, the Royal Navy (as it had in both world wars) would have to protect seaborne trade that kept Britain alive whether in times of peace or war.

The Royal Navy in the early 1980s was comprised of three major elements, surface ships, submarines and aircraft, a traditional hierarchy. Surface ships have a longer history of service to the institution than the other forms of platforms and represent the 'preferred' technology. Submarines and aircraft are to a large degree new developments for the institution. The philosophy of the Royal Navy is inextricably linked to this triangle of capability, which in itself mirrors the essential nature of the 'multidimensional maritime battlespace'.[15] Balanced naval forces offer the most appropriate configuration for warfare at sea permitting flexible options that range from power projection to amphibious warfare. It has been described as:

> *Maritime power projection* is a concept that has broad application both during hostilities and for *crisis management*. In a crisis power projection capability is an important contributor to *naval diplomacy* providing the principal seaborne instruments for coercion and reassurance. The sailing of power projection forces demonstrates political resolve without a specific statement of commitment.[16]

Power projection requires surface forces. A heavily armed ship with visual signifiers of intimidation such as guns and missiles creates a suitable impression of political will. Aircraft carriers are particularly suitable in this role, and their aircraft demonstrate flexible presence in a diplomatic situation. Submarines can also be used in power projection either by making their presence known to hostile forces or by using land-attack cruise missiles such as the Tomahawk system. The disadvantage in both cases is that the element of risk is much higher: the former endangers the submarine; the latter, by definition, escalates diplomacy to the level of force.

At the higher end of the spectrum of naval capabilities resides the ability to prosecute amphibious operations. Amphibious warfare is derived from the strength of a naval task force comprised of surface forces to project power in the form of firepower, men and equipment on to land. It is one of the most difficult of operations to successfully prosecute within the broad parameters of naval strategy and requires specialized ships with highly trained personnel. It has been defined as follows:

> Maritime combat power can be projected ashore using *manoeuvre from the sea* through organic attack aircraft, submarine and surface launched land attack missiles, *naval gunfire support* (*NGS*), amphibious forces and special forces. Amphibious operations can be *assaults, raids, demonstrations, feints or withdrawals*. Operations ashore will usually be joint, requiring effective co-operation and a clearly understood command structure. Contribution to a ground *campaign* by specific *manoeuvre* operations from seaward can be used for *envelopment, turning movements* or *infiltration* and *interdiction* of key vulnerabilities ashore.[17]

The Royal Navy has accumulated considerable experience in this type of warfare, from expensive failures such as Gallipoli in 1915 to expensive successes like the Normandy landings in 1944. The key point about amphibious warfare is the high element of risk. Surface ships must be close to the shore to disembark troops or provide gunfire support, which makes them highly vulnerable to countermeasures, particularly mines and aircraft. Assault troops tend to be lightly armed in comparison to dug-in defenders and can be bogged down or defeated in attritional warfare in which numbers are all important. However, amphibious warfare can produced spectacular results. Wolfe's successful deployment from Royal Navy vessels in 1759 gained the country of Canada for the British after the battle of the Plains of Abraham.[18] Equally, the San Carlos landings in 1982 provided the foundation for the British victory in the Falkland Islands.

The Cold War generated a bias within the Royal Navy toward anti-submarine warfare. The preferred technology to prosecute this type of warfare was still predominantly the surface platform: a reflection of institutional preference over the most effective platform available, the submarine. Governments immediately prior to the Thatcher administration had supported this orientation. The *Statement on the Defence Estimates* (1980) reveals the legacy of the Labour government's naval policy:

> In time of tension most of our surface vessels and all our submarines would be committed to the Alliance. This contribution would include:
>
> – four Polaris submarines;
> – more than twenty-five nuclear-powered and conventional submarines;
> – six large warships including ASW carriers and assault ships;

- some sixty-five destroyers and frigates, almost all armed with weapon-carrying helicopters;
- four squadrons of Sea King ASW helicopters, operating from the larger warships and Royal Fleet Auxiliaries, equipped with dipping sonar, sonobuoys, lightweight torpedoes and depth charges;
- some thirty Royal Fleet auxiliaries providing essential afloat support.[19]

It is evident that British naval policy in 1980 provided the Royal Navy with a large surface-ship capability that was several times bigger than its combined conventional and nuclear submarine assets. This ratio of ship to submarine had not occurred accidentally and matched a pattern of institutional choice concerning weapons platforms that had not altered perceptively in the previous 30 years.

The parameters of Britain's naval strategy by the early 1980s had evolved from the experience of World War I and II with a subsequent readjustment of long-standing theories. Traditionally the primary objective of a naval strategy would be the achievement of 'command of the sea', which would ensure total freedom of action within the maritime environment for a state. The most direct manner of obtaining such a situation would be by destroying an opposing fleet in a decisive battle such as the battle of Trafalgar in 1805. However, contemporary naval technology such as submarines, naval aircraft and missiles have made such a scenario very difficult due to the dispersed nature of these platforms as well as the enhanced lethality of modern weaponry. This problem has been reflected in contemporary publications on naval doctrine:

> Total command of the sea, in the sense that one's own *maritime forces* are unchallenged anywhere and that an enemy is unable to carry out any maritime operations, can only be achieved by destruction of the enemy's maritime forces or their elimination in other ways. Such an undertaking against a substantial and well-equipped opponent could be costly, even if it were feasible or necessary. Since Corbett, strategists have generally acknowledged that the uncommanded sea is the norm. Nevertheless, during *conflict* of any level of intensity it remains essential to ensure that an opponent is not able to frustrate one's military or commercial operations in the areas of those operations. Command of the sea that is limited in time and place is called *sea control*.[20]

Sea control is the successor concept to 'command of the sea' that reflects the 'temporary' nature of controlling a specific part of the ocean in modern naval warfare. The prosecution of such a strategy, however, retains similar demands, notably the need for surface forces in relatively large numbers.

An alternative strategy which is a secondary element of sea control but nevertheless can be the ultimate purpose of a navy is sea denial 'when one party denies another the ability to control a maritime area without either wishing or being able to control that area himself'.[21] The adoption of such a strategy as the main objective of a navy is characteristic of an inferior naval power. This strategy has never been strongly favoured by the Royal Navy. Sea denial has been traditionally associated with the naval theory called 'guerre de course' or the explicit targeting of merchant shipping utilized by the German Navy in both world wars. The benefit of this method of warfare is that it requires substantially less investment in surface forces and a greater reliance on submarines and passive weapons such as mines. The advent of missile technology has enhanced the effectiveness of such a strategy and British naval policy reflected an awareness of this threat. The Statement on the Defence Estimates asserted:

> Our maritime forces are primarily designed for anti-submarine warfare, as the most dangerous threat is from Soviet submarines. However, at sea as on land, Soviet doctrine is one of massive coordinated attack. Their submarines, armed with long-range anti-ship missiles as well as torpedoes, combine with surface and naval air forces to pose a wide-ranging and varied threat.[22]

A variation on the sea-denial strategy is the maintenance of a 'fleet in being': the possession of a fleet or a few high-value surface units with no explicit intention to engage the enemy in pitched battle. These forces will always pose a threat even though their primary purpose is not to engage in a decisive encounter unless a favourable situation arises. The very existence of these ships cannot be ignored by an enemy who is forced to allocate resources to shadowing them in the event that they leave port. The German Navy used such a strategy with their small number of powerful surface raiders during World War II and the hunt for the *Bismarck* in 1941 (involving 19 major surface units of the Royal Navy in the attempt to sink one German ship) demonstrated how it could tie down a disproportionate number of opposing naval assets.[23]

British naval policy, the Royal Navy and naval strategy are a changing synthesis in that modifications in one element will directly affect the other two and produce subsequent readjustment. All three variables are fluid in nature due to constant alterations in national wealth and political administrations, as well as to technology and change, will always take place. However, the implications of these adjustments over time can only be realized in a wartime environment. Brodie argued that

> each navy seeks to get out of the money and materials available to it the maximum in all-weather, all-purpose fighting strength. This involves a balanced fleet, balanced in accordance with the soundest and yet most advanced tactical and strategic theories of the time. Those theories cannot be fully tested until war comes, which means that errors are inevitable, and the nation which has made the fewest mistakes has a tremendous advantage.[24]

Consequently, British naval strategy is in a process of flux; however, it can be defined by its position on the sliding scale between sea control and sea denial, in which the factor of capability is critical. It is the speed of change that is all-important. Incremental alterations will maintain a relative position in the spectrum of naval strategy over longer periods, though higher levels of capability will be more expensive to maintain. Radical change in a positive sense to enhance capability will take considerable time due to the production processes of modern naval technology. In a negative sense, to reduce capability will require much less time and the consequences for naval strategy will be fundamental. By the early 1980s, the Royal Navy's force structure had the ability to generate limited sea-control strategies, yet declining capabilities in the form of surface platforms made such a construction extremely difficult to maintain.

MARITIME ENVIRONMENT

The sea is a unique environment in terms of composition, behaviour and utility. It is a liquid phenomenon that can be described as a hostile medium for people without the protection of either suits or vessels over a long period. Unlike land, salt water will not sustain homo sapiens in itself, and will corrode any type of ship that uses it. These points are reinforced by Tangredi

who argues that 'From a wider perspective, a navy is the portion of military forces that *operates in the fluid mediums that humans use for information transmission, transportation, and exchange, but cannot normally inhabit*. Its prime purpose is to *ensure or deny access*.'[25] The oceans are also unpredictable in terms of behaviour. There is no uniformity concerning weather conditions in different regions, which necessitates a highly adaptable approach to using the sea. With regard to utility, seamanship is a prerequisite to the prosecution of warfare. A major British naval doctrine manual comments that

> The maritime environment influences the way in which maritime forces can achieve their objectives.
>
> *Coverage*. Seventy percent of the Earth's surface is covered by the sea, providing a medium for the efficient transport of large and bulky items.
> *Resources*. The sea is increasingly being exploited for the economic resources it holds and covers.
> *Access*. Approximately seventy per cent of the world's population lives within one hundred miles of a coastline. The sea thus gives vital strategic *access* to the centres of population and therefore to governments.
> *The Physical Environment*. Operating areas for maritime forces vary from open oceans and great seas, known colloquially as blue water, to the more confined waters of *littoral* regions, estuaries and rivers. A good knowledge of the physical environment in which maritime forces are to operate is essential. Geographic, oceanographic and meteorological conditions will affect the ability of maritime forces to conduct operations.[26]

The maritime environment is three-dimensional in scope, encompassing the surface of the seas, the airspace above it, and underwater. In addition, the sea occupies a vast space of the world's surface. From a strategic perspective, these factors create a specific mindset that is evident within the service culture of the Royal Navy. Naval officers must constantly think in three dimensions concerning the utility of sea and its potential for strategy. Furthermore, unless at anchor, ships are constantly moving throughout the oceans. Flexibility is a constant factor within the thinking of the Royal Navy. These thought patterns are also influenced by the close confines of the platform. HMS *Illustrious*, for example, an ASW aircraft carrier, provides a working environment for approximately 1,000 service personnel. Proximity of the crew, isolated on the seas on a single platform

allied with teamwork, service integration and co-ordination of thought processes between officers will be inevitably enhanced by sea service.

THE BRITISH GOVERNMENT AND NAVAL STRATEGY IN 1982

The British government's attitude to naval strategy was neither positive nor negative by 1982, merely indifferent. It was concerned with cutting the size of the defence budget. The absence of any Cabinet minister with a naval background within Margaret Thatcher's administration, after the sacking in 1981 of Keith Speed the Navy Minister (who had served in the Royal Navy) added to the lack of interest in the consequences of the government's fiscal approach to naval strategy. John Nott was selected for the task of evaluating a method of reducing defence expenditure and his solution centred on a redefinition of Britain's naval strategy. According to Margaret Thatcher:

> I appointed John Nott to Defence in January 1981 with the remit of getting better value for money from the huge sums spent on defence. In February John, Peter Carrington and I had an initial discussion about what would be our 1981 Defence Review. John had already concluded that the defence budget was hopelessly overextended both in the short and long term. The real cost of ever more sophisticated weapons was remorselessly increasing the pressure. More sales of defence equipment could help a little – particularly if we were able to produce equipment more suited to the needs of potential overseas customers. However, defence orders were running way ahead of budget and would have to be cut back if we were to keep within any kind of financial discipline. Some fundamental strategic issues also had to be faced.[27]

Redefining British naval strategy inevitably meant that the Royal Navy's philosophical outlook on warfare would also have to be addressed. However, this element was not considered by the defence planners. Naval strategy is intrinsically inter-locked to a belief system about how to fight war. One element cannot function efficiently without the other. The scope of warfare is extremely broad and multi-dimensional. It is more than just a physical activity in which individuals attempt to damage irrevocably the biological functions or the means to sustain life of

the other protagonist. It also requires considerable psychological motivation in order to prosecute successfully actions that entail the highest risks to human life. Psychological impetus within military institutions is derived from the dominant belief system, which is rooted in past experiences that have demonstrated success in warfare. The rarity of warfare in the naval environment will often result in the dominance of belief systems from very old experiences that may be measured in time-spans of up to hundreds of years.

John Nott's proposal for a new direction for British naval policy was articulated in *The Way Forward* defence white paper that was a remarkable document in many respects, a brief yet concise *tour d'horizon* of British defence policy. The strategic rationale of the paper was based around four major factors, the hierarchy of which was reflective of the government's priorities. In ranking order the factors covered the economic situation, the need for changes in force structures, technological developments, and the maintenance of the four defence roles at an acceptable cost.[28] The economic situation was the primary factor dominating the major paragraphs of the supplementary White Paper. The defence review stressed that 'Britain already spends 5.2 per cent of its gross domestic product on defence – one of the highest figures anywhere in the Alliance, even though we are not among the wealthiest members and continue to face sharp economic difficulties'.[29] The emphasis on economics reflected the deepening financial crisis facing Britain in the early 1980s due to recession. Young accurately suggests that 'throughout 1981, Britain was a country nowhere near to being at peace with itself'.[30] The government had to reduce drastically the burden on the British economy, which meant painful reductions in public expenditure. According to Sir John Nott, the government was aiming for future savings from the defence budget amounting to around '£10 billion'.[31] However, the paper also reaffirmed a commitment to the agreed 3 per cent increase in NATO defence spending until 1986, which generated even greater pressure to reduce spending in other areas of defence.[32]

The focus on the need to change the existing force structures within Britain's armed forces was a consequence of the squeeze imposed by the Margaret Thatcher's administration on defence spending. Force structures represent more than just the visible physical expression of an armed service in support of the state's posture on a security issue such as the Cold War. In many cases, particularly the Royal Navy, the force structure or the composition of the fleet expresses the underlying philosophy of

the institution. The emphasis on the importance of surface vessels in the Royal Navy stems not only from practical experience in conflicts like World War II but also from deeply rooted cultural preferences for such configurations. *The Way Forward*, however, challenged this perspective by clearly stating that

> even the increased resources we plan to allocate cannot adequately fund all the force structures and all the plans for their improvement we now have. One reason (not peculiar to Britain) is cost growth, especially in equipment. Our forces need to be equipped, operated, trained and sustained to the standards imposed by the mounting Soviet effort and the increasing sophistication of weapons. Our current force structure is however too large for us to meet this need within any resource allocation which our people can reasonably be asked to afford.[33]

Of the three services, the Royal Navy was influenced in the most radical way by the alterations to the force structures: an alteration with fundamental philosophical ramifications as well as physical changes to the outward appearance of the fleet. Nott's vision for the future Royal Navy was starkly set out in the defence review:

> Our basic judgement accordingly is that for the future the most cost-effective maritime mix – the best-balanced operational contribution for our situation – will be one which continues to enhance our maritime-air and submarine effort, but accepts a reduction below current plans in the size of our surface fleet and the scale and sophistication of new ship-building, and breaks away from the practice of costly mid-life modernisation.[34]

The long-term implications of *The Way Forward* carried the same significance as the Healey decision to scrap the plans for a new carrier force in 1966 based around CVA-01.[35] It offered the prospect of a truly unbalanced future fleet in terms of surface assets designed specifically for joint NATO maritime operations.[36]

In reality, the balanced fleet had disappeared with the scrapping of HMS *Ark Royal*, yet the existence of fixed-winged aircraft like Harriers on smaller carriers provided legitimacy for the notion that a version of the balanced fleet still existed, albeit considerably reduced in terms of size and capability. Evidence for the persistence of this notion can be extracted from a surprising source, *The Falklands Campaign: The Lessons*, Cmnd 8758 which stated that 'The course of the Campaign emphasised the relevance of these principles and the importance of a balanced fleet'.[37]

The changing shape and nature of technological developments in defence equipment was particularly singled out by *The Way Forward* as justification for changes to force structures, especially for the Royal Navy. One of the most significant statements in the White Paper to underpin this argument suggested:

> Technological advance is sharply changing the defence environment. The fast-growing power of modern weapons to find targets accurately and hit them hard at long ranges is increasing the vulnerability of major platforms such as aircraft and surface ships. To meet this, and indeed to exploit it, the balance of our investment between platforms and weapons needs to be altered so as to maximise real combat capability. We need to set, for the long term, a new force structure which will reflect in up-to-date terms the most cost-effective ways of serving the key purposes of our defence effort.[38]

The future force structure of the Royal Navy within the defence review fully paralleled the strategic logic of this argument with a significant reduction in large vulnerable surface platforms. It was reflected in the cut-backs in the size of the anti-submarine warfare (ASW) carrier force and a phasing out of the amphibious assault ships. These vessels represented the largest types of ship available to the Royal Navy, that displaced in the case of the new ASW carrier HMS *Invincible* 19,500 tonnes[39] (full load) and with respect to one of the two amphibious assault ships, HMS *Fearless*, approximately 12,120 tonnes.[40] In addition the number of frigates and destroyers was to be greatly reduced. The declaratory policy concerning the number of frigates/destroyers masked the operational reality, for the publicly stated figure of 50 ships was actually 42 due to eight vessels being placed in the Standby Squadron.[41]

An important conceptual foundation of *The Way Forward* revolved around the maintenance of the four defence roles at an acceptable cost. Britain's defence roles were identified in the supplementary White Paper as follows:

> We have now four main roles: an independent element of strategic and theatre nuclear forces committed to the Alliance; the direct defence of the United Kingdom homeland; a major land and air contribution on the European mainland; and a major maritime effort in the Eastern Atlantic and Channel.[42]

The overwhelming emphasis in the roles concerned multilateral action in co-ordination with NATO partners to the significant

detriment of unilateral capability. 'Out-of-Area' operations were briefly mentioned with the caveat, 'so far as our resources permit'.[43] However, the description of Britain's nuclear forces and the purchase of Trident provided a strong indication of the government's perceptions about the primary purpose of the Royal Navy. *The Way Forward* indicated in no uncertain terms that 'The operation of the strategic force will remain the Royal Navy's first and most vital task for Britain's security'.[44] Here was a conscious recognition that the four nuclear-powered ballistic-missile submarines of the Polaris force symbolized the most important element of the Royal Navy, but this role in itself possessed a double edge. It offered tremendous responsibility and prestige to the institution, yet, by virtue of stealing the limelight, it reduced the focus on the essence of the Royal Navy, that of surface-ship deployments around the world.

NAVAL PHILOSOPHY AND STRATEGY

Despite the breadth and scope of these radical changes, the Defence Secretary failed to recognize the existence of an underlying philosophy within naval strategy that was operating inside of the Royal Navy. It was impossible to alter British naval strategy in any significant way without altering the philosophy. Such a realignment required a far more drastic approach to defence restructuring than that offered by *The Way Forward* defence review in 1981. The Royal Navy as a military institution would have to be radically reconstituted. All senior personnel with significant wartime experience would have to be purged. The training establishments of the Royal Navy from officers to ratings would require a new belief system with norms and values that would replace the old ideas. Consequently, all the institutional resistance to change would vanish over a relatively short period and the government's policy towards naval strategy would be bedded on firm foundations within the Royal Navy.

In the event, *The Way Forward*, redefined the Royal Navy's new strategic outlook based on roles and equipment but did not influence the implicit thinking toward strategy within the service itself: a highly significant but unrecognized contradiction. The primary role for the Royal Navy would be the operation of the strategic nuclear deterrent. The strategic nuclear deterrent since the 1960s had been the Polaris system, a submarine-launched ballistic missile, purchased from the United States by Harold

Macmillan, Conservative Prime Minister from 1957–1963.[45] By the early 1980s, the Thatcher government had been in negotiations first with President Carter's administration and subsequently with the Reagan administration to buy a successor to Polaris, an up-dated system called Trident. The deal was finalized in 1981 at the time of the Defence Review and would cost £8 billion over a number of years;[46] this purchase was allocated to the Royal Navy's budget. The Trident deal was an important factor in the strategic rationale for the future orientation of the Royal Navy. *The Way Forward* states that

> Review of all the options confirms that Trident remains by far the best way – indeed the only cost-effective way – of modernising the crucial strategic element of our capability. In the Government's firm judgement, no alternative application of defence resources could approach this in real deterrence insurance.[47]

To the British government, Britain's strategic nuclear deterrent was the most important strategic role of the Royal Navy in wartime. Nuclear weapons, however, have very little impact within the belief system of the institution. The Royal Navy has no wartime experience of using these weapons: for the service it is a weapon without a history. In addition, nuclear weapons were also relatively new to the institution, less than 20 years old since the Nassau agreement in 1962. Consequently, in terms of the hierarchy of beliefs about fighting wars in the maritime environment, nuclear weapons were at the bottom of the Royal Navy's priorities. A further element to this thinking within the service revolves around the notion that such weapons are self-defeating for the dedicated Nelsonian. War is a means of furthering the career of a naval officer, yet in all likelihood in the event of a nuclear war with the Soviet Union, nobody would win and promotions would count for little. Glory in war is heavily dependent on societal recognition: nuclear war removes society from the equation.

The 1981 Defence Review demanded a philosophical realignment from the Royal Navy and effectively emasculated the power projection and amphibious warfare capabilities of the service. Assigning primacy to the strategic nuclear deterrent, a submarine-based force, and to submarines in the ASW role against the Soviet threat, the British government tried to force the Royal Navy to adopt a new philosophical outlook concerning naval strategy. Above all things, it required an acceptance of operating in the future at the lower end of the spectrum of naval

strategy. The *Statement on the Defence Estimates 1982* stressed that, 'In the field of anti-submarine warfare, we attach particular importance to increasing the size of the nuclear-powered submarine force as rapidly as resources will permit'.[48] The declaratory policy of retaining two ASW carriers would mean first a period of interregnum in which neither carrier was fully operational due to the fact that they were still under construction: HMS *Illustrious* was commissioned in 1982 and HMS *Ark Royal* in 1985.[49] Secondly, having two ASW carriers 'on the books' does not mean that both would be operational at the same time – in fact, it was highly likely that one would be in refit while the other was available for operations.[50] A single ASW carrier with a usual complement of five Sea Harriers could not engage in effective power projection.[51] Furthermore the retirement of the assault ships ruled out future unilateral involvements in amphibious warfare because the Royal Navy would simply not have the capability. Increasingly the absence of naval guns in the new generation of frigates such as the Type 22 Batch I design negated the ability of the existing surface forces to influence land warfare through traditional roles such as naval-gunfire support.

The future of British naval strategy as prescribed by the 1981 Defence Review would be orientated on a single scenario and multilateral operations. The Royal Navy's forces would be focused purely on ASW warfare against Soviet submarines. British nuclear-powered submarines would be extremely potent weapons due to the beneficial influence of Nott's resource allocation. The *Statement on the Defence Estimates 1982*, written before the Falklands Conflict, revealed that the future gains of the submarine force included 'the submarine-launched Sub-Harpoon. Our capability will be further improved by the decision announced recently to acquire a new heavyweight torpedo manufactured by Marconi'.[52] However, at most, there would be just 17 of them in comparison to the more than 300 submarines that the Soviet Union would acquire by the end of that decade.[53] Due to deficiencies in size and capability, the Royal Navy's surface ships would have to co-ordinate with other forces in the event of a relatively large diplomatic crisis. Power projection and amphibious warfare would be virtually out of the question unless facing undeveloped nations. The flexible quality of existing British naval forces would have diminished considerably to the extent that the Royal Navy, rather like the British Army of the Rhine, would be a role-specific force. In itself, this was a marked contrast to the undertone within the Royal Navy's institutional culture of the fleet being inherently flexible.

THE FALKLANDS CONFLICT AND NAVAL STRATEGY

The South Atlantic campaign was an unusual event in international relations because it encapsulated a type of high-intensity naval warfare never before experienced by a Western nation in the years after World War II. The Argentine invasion of the Falklands Islands started on 2 April 1982 when Argentine naval Special Forces assaulted positions held by British Royal Marines. Freedman and Gamba-Stonehouse illustrate the aims of Operation Rosario, the Argentine invasion of the Falkland Islands:

> At 00.30 on 2 April two groups made up of amphibious commando units and special forces were to land in rubber dinghies and head for their respective objectives (Moody Brook Royal Marine headquarters and Government House respectively). If the Royal Marines were not at Moody Brook then contact would have to be established at the town. Three hours later special forces would land and mark the landing beach at Yorke Point for the main force. This represented a change from the earlier plan, which had been to land to the east of this point, and was the result of the aerial reconnaissance of two days earlier.
>
> At H hour, 06.30, the first amphibious vehicles would land and proceed to the airport. Here this group would split into two, the first taking control of the airport while the second moved on beyond Stanley. Here they would join up with the commandos sent to find the Royal Marines, who should at this point be either at Moody Brook barracks or en route to the town. Once the headquarters of the marines had been captured, the units would continue northwards from the bay until they reached the eastern point of the coast, where they could secure the entrance of the ships.
>
> A second amphibious-vehicle force would land almost immediately after the first, which it would follow until it arrived at the easternmost point of the town, which it would then encircle. Once this had been done, the Governor would be asked to surrender. It was hoped to have artillery batteries installed close to the airport as soon as possible. Other units, including those concerned with civilian affairs, would follow either on the landing beach or by helicopter.[54]

Operation Rosario was extremely successful despite a handful of casualties sustained by the assault forces and after approximately four hours the British surrendered. The relative ease by which the

Argentine assault troops seized the island was unsurprising. The Royal Navy had been given responsibility to provide protection for the islands; however, due to the Thatcher government's foreign policy only a small naval party largely comprised of Royal Marines was deployed in the Falklands by the time Argentina decided to use force. The vulnerability of these forces had been recognized in an annex to a paper for the Defence Committee dated 14 September 1981:

> It noted that Argentina had some of the most efficient armed forces in South America, and gave a brief account of its naval and air capability. It also drew attention to Britain's very limited military capability in the area, consisting of only the garrison of 42 lightly armed Royal Marines on the Islands, the part-time Falkland Islands' defence force, and HMS *Endurance*, which was due to be withdrawn in March 1982.[55]

The Royal Marines put up as much military resistance as could be expected from an isolated garrison, thousands of miles away from friendly forces and facing a superior opposition. Quite quickly, they were forced to bow to the inevitable and sensibly surrendered. At this stage of the conflict, it was by no means certain that Britain would adopt a force option and continued resistance by hiding in the wilderness of the Falklands would probably have led to reprisals against the civilian population of the islands.

The Falkland Islands crisis in 1982 created a diplomatic and military environment that possessed several unique demands for the two participants though particularly for Britain. In geo-political terms, both protagonists belonged to the Western sphere of influence. The two countries had strong cultural and military links reflected in sporting exchanges and defence sales. Argentina's Navy was equipped with the Royal Navy's newest destroyer, the Type 42.[56] Furthermore, Britain and Argentina were closely allied diplomatically and militarily to the Western superpower, the United States.[57] For the British government, it was not easy to go to war with Argentina politically or practically. Most factors such as distance and the capabilities of the available Royal Navy ships militated against a successful prosecution of warfare from the British perspective. However, a consistent factor with regard to all these problems was the Royal Navy's determination to resolve the issue by force.

The Royal Navy provided the only viable method of sustaining a military campaign in the South Atlantic. The geographical location of the Falkland Islands from the United

Kingdom ensured that any military operation would have to be carried out by naval forces. The Royal Air Force could mount a long-range bombing campaign such as the Vulcan raids during the conflict, but a bombing strategy alone would not make the Argentine forces leave.[58] The three battalions of airborne troops (approximately 1,500 men of the Parachute Regiment) were insufficient to recapture the Falklands in the light of the size of the opposing forces stationed there. Only the Royal Navy and the 4,600 men of 3 Commando Brigade[59] reinforced by two battalions of the Parachute Regiment, all elite troops trained for high-intensity warfare, could successfully mount such an operation. The Royal Marines provided the forces trained in amphibious warfare available to the British government.[60] One official publication illustrates the enormous flexibility offered by these units:

> Specialist amphibious troops can be landed to secure a *lodgement area* by seizing a *beachhead* or other means of entry such as ports or airfields. This lodgement area can then be used as a springboard for further operations, either by the landing force, or by follow on forces inserted through the lodgement area.[61]

Argentine forces on and around the Falkland Islands determined the shape of the British military response. The opposing armed forces were equipped to fight on virtually all levels of conventional warfare and technologically speaking were on a par with (though in a few cases superior to) the British forces. Argentina possessed a balanced navy that could conduct limited sea-control operations that in the main demonstrated a significant degree of capability. The Argentine Navy was centred around an aircraft carrier, *Veintecinco de Mayo*,[62] and an old WWII cruiser, *General Belgrano*.[63] In addition, the destroyers in the Argentine fleet – British Type 42s – were extremely modern and several large corvettes, A.69 class, carried Exocet anti-ship missiles.[64] The Argentine Navy also operated modern diesel/electric submarines such as the *San Luis*, Type 209. The A-4B Skyhawk aircraft that flew from the aircraft carrier were old but effective and, more importantly, were dedicated to anti-ship operations, unlike the Argentine Air Force. The Argentine Navy thus posed a serious threat to the Royal Navy and under favourable circumstances could severely disrupt British operational plans. The cruiser *General Belgrano* carried 15 6-inch guns in comparison to the largest British naval gun, which was only 4.5-inch. The old-fashioned armour on the ship would protect it from anti-ship

missiles. Therefore, the carrier and the cruiser with accompanying escorts accounted for two separate threats to the Task Force. If handled correctly, both major units could cause significant damage to the overall British naval strategy, particularly during the landing phase. In the air, the naval Super Etendard aircraft/air-launched AM-39 Exocet[65] combination was a major source of great anxiety due to the accuracy and punch of the weapon.

The Argentine Air Force represented another potent threat to any British military operation to retake the Falkland Islands by force. Argentine aircraft such as A-4 Skyhawk (B and C versions), Mirage (IIIEA) and the Israeli Dagger (a copy of the Mirage V) were also effective weapons platforms against ships or opposing British aircraft. The Argentine-designed Pucara ground-attack aircraft designed for counter-insurgency warfare was particularly suitable for disrupting the lodgement area. This heavily armed prop-driven plane posed a highly dangerous threat to the amphibious forces due to its ability to loiter over the area.[66] In terms of technology, Argentine aircraft were not far behind British Sea Harriers and in some cases such as the Super Etendard probably more advanced. The majority of Argentine aircraft were combat-proven, the A-4 Skyhawk in Vietnam and the Dagger from the lessons of the 1967 Arab–Israeli war, whereas the Sea Harrier had never been flown in combat, so the risks were stacked against the Royal Navy in the air. Numerically, the odds were strongly in Argentina's favour with theoretically, in the most favourable circumstances, '200 frontline aircraft'[67] available for operations. A more realistic figure but still considerably more than the British air assets is put forward by a senior naval officer in the weeks leading up to the landings at San Carlos:

> By 1 May the intelligence picture had indicated sixty-seven assorted aircraft on the mainland (and in the aircraft carrier) available to the Argentinians (assuming 60 per cent availability) including four Canberras, twenty Skyhawk A4Bs and twelve A4Cs, nine Mirage 3s and twenty-two Mirage 5s (the Daggers). Additionally they had approximately fifty-two Pucara and, dispersed throughout the islands, an assortment of other aircraft and helicopters believed to include four T34C Mentors, four MB 339A Aeromacchis, two Skyvans, four Chinooks and 'some' Hueys.[68]

Surprisingly, one of the most threatening aircraft in the Argentine Air Force inventory was the Boeing 707 airliners[69] used as

reconnaissance planes to identify the location of the British Task Force. Without this vital information in association with other intelligence assets, the effectiveness of Argentine air strikes would have been significantly reduced.

The Falkland Islands themselves were occupied by the Argentine Army, which represented a major obstacle in the British strategy to recapture the lost territory. The Royal Navy had to defeat an opposing navy, gain air superiority against a larger air force and then with a smaller number of troops take the islands in battle against a larger, well-prepared force. On paper, the task appears difficult even for the most advanced navy in the world not least of all for a third-class navy of a declining world power. The size and capability of the Argentine land forces have been described as follows:

> it was clear that the Argentines had about 11,000 troops on the Falkland Islands. Reports from Special Forces patrols and other intelligence sources had enabled the brigade intelligence staff to build up a good outline picture of the forces round Stanley. Except for detailed locations, especially gun positions, most of what was actually there had been identified: a reinforced brigade consisting of six infantry regiments (each battalion size), including a marine unit, a comprehensive gun and surface-to-air (SAM) air defence system, supporting arms and logistic units. The artillery supporting this brigade consisted of 38 105 mm pack howitzers with a range of 10km, and three towed 155 mm guns with a range of 24km. In addition there were numerous 35mm and 30mm air defence guns, which the Argentines also used in the ground role.[70]

The Argentine ground forces were substantial in numbers with significant amounts of firepower. Even at the lowest levels, the Argentine conscript possessed, to some, a better version of the Belgian-designed self-loading-rifle (SLR) that could fire in automatic mode whereas the British version of the same rifle could only be fired semi-automatically.[71]

The application of British naval strategy to the demands of the Falklands crisis reveals the difference in strategic thinking between the Royal Navy and official government naval policy set out in the 1981 defence review. The Falklands campaign required all of the capabilities that the defence review tried to marginalize or withdraw. Under the direct command of the Prime Minister, Sir Henry Leach assembled a task force, which was capable of retaking the islands in the South Atlantic. The units gathered

together reflected 'navy' thinking as to what would be necessary. The Task Force was comprised of a large surface-ship force centred on two ASW carriers, HMS *Hermes* and HMS *Invincible*. The specialized assault ships HMS *Fearless* and HMS *Intrepid* were essential requirements of the campaign. According to one official publication:

> The *grand strategic objective* to re-establish political control of the Falklands set the context and subordinate objectives of the whole campaign. The prompt despatch of the task force was a *military strategic* act of military *coercion* in support of diplomatic efforts to secure a withdrawal.[72]

The latter part of the statement appears to downplay, or for that matter not mention at all, the role of the Royal Navy's institutional culture in the decision to adopt the force option. The explanation lies with the date of the publication, 1995, essentially many years after the conflict, and its purpose: to promote maritime doctrine using terminology that will be acceptable to both the public and government of a modern European democracy.

The Falklands represented an 'out-of-area' situation[73] far removed from the single scenario on which the 1981 Defence Review strategy was based. The geography of the objectives ultimately influenced British naval strategy to the greatest extent. The most direct way of coercing an island garrison to surrender is to separate it from all forms of support and supply. British naval strategy, therefore, was to isolate the forces on the islands from Argentina and any other units involved in the logistical pipeline such as the air force and navy so that the British land forces could achieve their objective to induce the Argentine forces to surrender. The conditions of the seas and the onset of the South Atlantic winter created a narrow window of opportunity for British naval strategy. The Royal Navy, having long-established links with the islands and maintaining the ice-patrol vessel HMS *Endurance* in the area, was well informed about the environmental factors. The Royal Marines had maintained a small detachment on the islands in 1965 that was established on a more permanent basis after the Condor incident in 1966.[74] The Falklands was not a new location for the Royal Navy and historically, it was an old venue for naval combat, the last time against a German squadron of battle cruisers under Admiral Von Spee in 1914. Ironically, the battle cruiser HMS *Invincible* had played an important part in the battle as its successor would do 68 years later.[75] Interestingly from a cultural perspective, after the first battle of the Falklands in

1914, many officers within the institution seemed more concerned about the number of shots fired (that was claimed to be too excessive) to sink the German warships rather than the fact that victory had been achieved.[76] The key issue in 1982 was that the Royal Navy had won its encounter in the same location in which once more it was expected to engage the enemy (albeit a different one), and in terms of memory this could only be a source of confidence. Clearly within the institutional culture of the Royal Navy, the location of the Falklands was not extraordinary or unfamiliar territory.

The bulk of the British forces deployed to the South Atlantic were surface ships, and it is often overlooked that 45 vessels were taken up from British merchant shipping[77] to support 38 different types of Royal Navy warship[78] (including five Extra Deep Armed Team Sweep Trawlers) as well as 22 RFA vessels.[79] Only surface ships could provide the platforms to transport the necessary personnel and equipment to the war zone. The *Queen Elizabeth II* is an example of the capability of surface ships during the conflict. In the 67,000 tonnes of the ship,[80] thousands of soldiers were transported from Britain to the battle-zone. Destroyers and frigates comprised the majority of the escorts for all of the warships and cargo ships. A typical escort would be a Type 21 frigate such as HMS *Ardent*, displacing around 3,250 tonnes (full load), armed with one 4.5-in Mark 8 gun, two 20-mm guns (Anti-Aircraft), a Seacat system (GWS 24) (Older Generation Anti-Aircraft Missile), and four MM.38 Exocet (Anti-Ship Missile).[81] Many of the escorts were designed for specific purposes such as the Type 42 destroyer to protect ASW carriers from aircraft at ranges of around 34 miles (against high-level threats) with missiles.[82]

No British escort was a true self-contained defence system and all of them reflected specific strengths due to designation for certain roles such as anti-submarine warfare (ASW) or anti-aircraft warfare (AAW). Therefore British naval strategy was designed to integrate these weapons platforms as an organic layered defence system.[83] The outer layer of protection (anti-ship) would be nuclear-powered submarines like HMS *Conqueror*, a Valiant-class, capable of 25 knots submerged[84] and armed with around 24 weapons.[85] These vessels would also provide the most effective offensive anti-ship capability available to the Royal Navy. The Sea Harriers provided the air cover operating at a range that occasionally exceeded 200 miles from the fleet.[86] Type 42 destroyers would be twenty miles 'upthreat'[87] of the main task force. Type 22 frigates (Batch I) with Sea Wolf missile systems would be close to the carriers to provide the last line of defence.

The application of Royal Navy strategy in the Falklands Conflict produced arguably one of the most famous victories in modern warfare. The defeat of the Argentine forces in the South Atlantic campaign had the same effect for Margaret Thatcher as the defeat of the Spanish Armada did for Queen Elizabeth I. The two leaders owe their political survival to the navy. In both cases surface ships proved to be decisive in defeating Hispanic forces. The Falklands factor produced a significant change in British naval policy, which directly altered naval strategy back toward pre-1981 defence-review concepts such as the balanced fleet. The most significant document published after the conflict, *The Falklands Campaign: The Lessons*, Cmnd 8758 reflected the changed political attitude toward British naval strategy, which was particularly reflected in terms of language used in the document.

At the grand strategic level, the role of certain individuals who interfaced with the political administration cannot be underestimated in terms of influence once the decision to use force had been accepted. Admiral Sir Terence Lewin, the Chief of the Defence Staff was one such individual. John Nott recalls of his role:

> I had placed Admiral Lewin in charge *de jure*, and his outstanding personality guaranteed that he was also boss *de facto* within the MoD. Lewin scrupulously consulted daily with his principal colleagues on the Chiefs of Staff Committee – Leach, Bramall and Beetham in particular – but ultimately his decision was paramount before he presented it to the War Cabinet. Each day he and I had a private meeting to ensure that we were in accord in presenting the military options to the War Cabinet. Terry Lewin himself established the shortest chain of command directly from the War Cabinet through him to Admiral Fieldhouse, the Commander in Chief, down to Major General Moore on the battlefield and Rear Admiral Woodward in the Fleet.[88]

This relationship between the most senior naval commanders and the political leadership of the nation undoubtedly altered for a brief period of time. The dependency equation had been reversed: the future of the young Conservative administration rested on the shoulders of the Senior Service (one year earlier, the prospects of the Royal Navy had been determined by the pen of the Defence Secretary), for only they had the resources (ships, aircraft and specialized troops reinforced by Army units) to make the force option viable. How did this unplanned mixture of blue colours (dark for the navy and bright for the Conservatives) alter the nature of the workings of the respective organizations toward

each other after the fighting was over? One indication of a change produced by the closer and more harmonious interaction between the government and the Royal Navy was the apparent willingness of the latter to transcend the influence of institutional culture concerning specific issues that would inevitably have unwelcome political ramifications.[89] The absence of potentially embarrassing courts-martial for captains of sunk vessels after the conflict was a noticeable break with long-standing institutional traditions.[90] According to Tracy:

> When one of the captains who commanded a ship at the battle of Camperdown in 1797 was court-martialed for misconduct, Nelson commented to Captain Bertie, who was one of the members of the court, that he wanted officers going into battle to have in mind that the chance of being shot by the enemy if they did their duty was less than the certainty of being shot by their friends if they failed in it.[91]

The significance of not going through the process of courts-martial meant that specific lessons of the Falklands were highlighted internally from the records of Boards of Inquiry but not publicly and, as records are for institutional consumption only, then the resonance of this combat memory would have been extremely limited to those involved in the investigations and those with access to these documents. In each case, the number of personnel involved would have been highly restricted. For the service, the loss of this tradition, for whatever reasons, removed a mechanism for clearing the air over specific incidents and for disseminating critical information throughout the institution. One consequence of this break with the past has been reflected in the differences and tensions within the narratives of the Falklands about certain events. It is easy to forget that no one individual (apart from possibly Admiral Fieldhouse, the overall commander, who died before writing his memoirs) had an all-encompassing picture of events occurring in theatre, and each one of the key operational commanders (from whose writings stem much of our understanding of the conflict) fought his battles in geographically diverse locations with very different operational demands. Fighting the war from an aircraft carrier 150 miles away from the islands, or aboard an amphibious command ship in San Carlos, or on land with the Royal Marines provided a particular view on the sequence of events occurring, often chaotically, all around them. Unsurprisingly, significant differences of opinion exist, and the sinking of HMS *Sheffield* is an example of an incident whose embers in terms of debate are still hot today,[92] twenty years later.

The Royal Navy has a complex relationship with naval strategy and can only be fully understood if the notion of an underlying naval philosophy is recognized. As a long-established organization the navy bases its philosophy on utility. Ken Booth notes that, 'Before asking "what is their naval strategy?" one should ask, "what is their interest in the use of the sea?"'.[93] Surface forces have provided traditionally the most successful method of engaging in naval warfare for the Senior Service. The ability to engage major surface threats in offensive actions has been a foundation stone of naval thinking for centuries. Institutional memory does not change as frequently as naval policy or capability and Royal Navy strategy/British naval strategy in 1981 developed two distinct identities, the former determined by tradition, the latter by economics. The influence of naval culture on naval strategy cannot be underestimated. All navies fight in different ways. Naval philosophy is the medium through which distinctive styles in warfare are inculcated and it represents a powerful belief system that manifests itself in preferences for offensive operations as well as surface-ship technology. Unsurprisingly, with the onset of the Falklands Crisis, the Royal Navy prepared to engage the enemy with its flags and institutional preferences flying proudly.

NOTES

1. See D. Wettern, *The Decline of British Seapower* (Jane's, 1982), pp. 392–439 for a complete overview of the strength of the Royal Navy from 1947 to 1981. It clearly reveals that surface ships have always taken precedence in numbers over submarines.
2. C. S. Gray, *Nuclear Strategy and National Style* (London: Hamilton Press, 1986), p. 34.
3. *British Maritime Doctrine*, BR 1806 2nd edn (London: TSO, 1999), p. 172.
4. Admiral Viscount Jellicoe, *The Grand Fleet 1914–16* (London: Cassell, 1919), pp. 12–13.
5. Captain S. W. Roskill, *The Navy at War 1939–1945* (London: Collins, 1960), p. 36.
6. G. Till, 'Naval Power', in C. McInnes and G.D. Sheffield (eds), *Warfare in the Twentieth Century* (London: Unwin Hyman, 1988), pp. 80–1.
7. *The Fundamentals of British Maritime Strategy*, BR 1806, 1st edn (London: HMSO, 1995), p. 66.
8. A. T. Mahan, *The Influence of Sea Power Upon History 1660–1783* (London: Sampson Low, 1892), p. 7.
9. J. Corbett, *Some Principles of Maritime Strategy* (London: Brassey's, 1988), p. 11.
10. Till, 'Naval Power', p. 80.
11. Sir Julian Corbett famously 'fell out' with the naval establishment concerning his thoughts in *Naval Operations*, Vol. II which according to the Royal Navy had a 'tendency to minimize the importance of seeking battle'. See A. Gordon, *The Rules of the Game: Jutland and British Naval Command* (London: John Murray, 2000), pp. 547–8.
12. Jay Luvaas has provided a masterful analysis of the influence of writers with military experience on the British Army; see his book, *The Education of an Army* (London: Cassell, 1964). His thesis suggests that change and reform within the British Army between 1815 and 1940 was significantly influenced by such published material. Interestingly, in the last two decades former Royal Navy officers have confined

themselves to writing either memoirs or battle accounts, rather than actively offering prescriptive (and published) thoughts for the service in the future.
13. *The Statement on the Defence Estimates 1981*, Cmnd 8212-I (London: HMSO, 1981), pp. 74–5.
14. Ibid, para. 329, p. 25.
15. *Fundamentals*, BR 1806, 1st edn, p. 53.
16. Ibid., p. 70 (original emphasis).
17. Ibid., p. 83 (original emphasis).
18. W. Tute, *The True Glory* (London: MacDonald & Co, 1983), p. 84.
19. *The Statement on the Defence Estimates 1980*, Cmnd 7826 (London: HMSO, 1980), para. 326, p. 28. See also D. Keohane, *Labour Party Defence Policy Since 1945* (Leicester: Leicester University Press, 1993), especially chapter two.
20. *Fundamentals*, BR 1806, 1st edn, p. 66 (original emphasis).
21. Ibid., p. 69.
22. *Statement 1981* Cmnd 8212-I, para. 332, p. 25.
23. See A. Finlan, M. J. Grove and P. D. Grove, *The Second World War: The War at Sea* (Oxford: Osprey, 2002), p. 43–4; C. Barnett, *Engage the Enemy More Closely* (London: Penguin, 2000), pp. 278–316.
24. B. Brodie, *A Layman's Guide to Naval Strategy* (London: Oxford University Press, 1943), pp. 12–13.
25. S. J. Tangredi, 'Sea Power: Theory and Practice', in Baylis, Wirtz, Cohen and Gray, *Strategy in the Contemporary World* (Oxford: Oxford University Press, 2002), p. 133 (original emphasis).
26. *Fundamentals*, BR 1806 1st edn, p. 50 (original emphasis).
27. M. Thatcher, *The Downing Street Years* (London: HarperCollins, 1995), pp. 249–50.
28. See *United Kingdom Defence Programme: The Way Forward*, Cmnd 8288 (London: HMSO, 1981), paras 3–11, pp. 3–5.
29. Ibid., para. 2, p. 3.
30. H. Young, *One of Us* (London: Pan, 1989), p. 239.
31. J. Nott, *Here Today, Gone Tomorrow* (London: Politico's, 2002), p. 234.
32. *Way Forward*, Cmnd 8288, para. 2, p. 3.
33. Ibid., para. 4, p. 4.
34. Ibid., para. 23, p. 9.
35. See Wettern, *Decline of British Seapower*, pp. 264–77 for another perspective into the reasons behind the extremely controversial and radical decision not to build the future generation of aircraft carriers.
36. Such a fleet would have become role-specific and heavily orientated toward multilateral operations.
37. *The Falklands Campaign: The Lessons*, Cmnd 8758 (London: HMSO, 1982), para. 209, p. 16.
38. *Way Forward*, Cmnd 8288, para. 5, p. 4.
39. D. Brown, *The Royal Navy and the Falklands War* (London: Leo Cooper, 1987), p. 358.
40. Ibid., p. 360.
41. *Way Forward*, Cmnd 8288, para. 29, p. 10.
42. Ibid., para. 7, p. 5.
43. Ibid., para. 7, p. 5.
44. Ibid., para. 10, p. 5.
45. See Wettern, *Decline of British Seapower*, pp. 212–15.
46. L. Freedman, 'British Defence Policy after the Falklands', in J. Baylis (ed.), *Alternative Approaches to British Defence Policy* (London: Macmillan, 1983), p. 64.
47. *Way Forward*, Cmnd 8288, para. 10, p. 5.
48. *The Statement on the Defence Estimates 1982*, Cmnd 8529-I (London: HMSO, 1982), para. 213 p. 12.
49. See Appendix B in The Sixth Report from the Defence Committee, *The Future Size and Role of the Royal Navy's Surface Fleet*, HC 309 (London: HMSO, 1988), p. xlii.
50. A widely held maxim within naval circles was that a three-aircraft-carrier force would permit two ships to be operational while the third would be in refit. See ibid., para. 9, p. vi. Under this rule of thumb (that takes into account the likelihood of accidents and mechanical defects), a two-aircraft-carrier force would allow just one ship to be ready for operations at any one time.
51. Brown, *Royal Navy and the Falklands War*, p. 65.

52. *Statement 1982*, Cmnd 8529-I, para. 214, p. 13.
53. See The Third Report from the Defence Committee, *Options for Change: Royal Navy*, HC 266 (London: HMSO, 1991), para. 5, p. vi
54. L. Freedman and V. Gamba-Stonehouse, *Signals of War: The Falklands Conflict of 1982* (Princeton: Princeton University Press, 1991), pp. 112–13.
55. See extract from *The Franks Report*, Cmnd 8787 in T. Coates (ed.), *War in the Falklands 1982* (London: The Stationery Office, 2001), pp. 78–9.
56. Brown, *Royal Navy and the Falklands War*, p. 40.
57. See Freedman and Gamba-Stonehouse, *Signals of War*, pp. 154–62 for a discussion on how the Falklands Conflict generated a major diplomatic dilemma for the United States concerning which ally to support and also the levels of division within the Reagan administration between the 'Latinos' and the 'Europeanists'.
58. The logistics and sheer distances involved in getting very old aircraft (the Vulcan bombers and the Victor tankers were over twenty years old) to the Falklands, dropping just 21 bombs and back to Ascension was prohibitively expensive in terms of fuel alone. One estimate suggests over two million pounds of fuel per sortie. See M. Middlebrook, *Task Force: The Falklands War, 1982* (Harmondsworth: Penguin, 1987), p. 120. The Royal Air Force only managed to carry out just over half a dozen bombing missions throughout the campaign with two of the sorties cancelled due to in-flight refuelling problems. The official analysis of the role of these bombing missions appears extremely generous and stresses the 'considerable achievement' of these aircraft in carrying out the longest bombing runs in history. However, seven missions could hardly be called a strategic bombing campaign and all three missions aimed at Port Stanley failed to render it 'inoperable'. See The Fourth Report from the Defence Committee, *Implementing the Lessons of the Falklands Campaign*, HC 345-I (London: HMSO, 1987), para. 226, p. lxi.
59. M. Clapp and E. Southby-Tailyour, *Amphibious Assault Falklands: The Battle of San Carlos Water* (London: Orion Books, 1997), p. 81.
60. Their specialization and its role in contributing to the overall success of Operation Corporate was particularly singled out for praise in post-conflict reports. See *Falklands Campaign*, Cmnd 8758, para. 210, p. 17.
61. *Fundamentals*, BR 1806, 1st edn, p. 84.
62. The *Veintecinco de Mayo* was 37 years old by the time of the Falklands Conflict, having originally been built in Britain as HMS *Venerable* (launched in 1945) before being sold to the Netherlands, who renamed it *Karel Doorman* in 1948 and finally sold it in 1969 to Argentina. It was just under 20,000 tonnes fully loaded and carried 15 aircraft of which 8 were A-4B Skyhawks. See Brown, *Royal Navy and the Falklands War*, p. 371.
63. The *General Belgrano* had started its life in the US Navy as the cruiser *Phoenix* in 1938 before being sold to Argentina in the early 1950s. Despite its age, it was still a powerful ship in 1982. Ibid., p. 371.
64. Ibid., p. 372.
65. The AM-39 Exocet anti-ship missile has a range of 96 miles and a 364-lb warhead. The force of the impact on a warship of this missile travelling at just below Mach 1 has been compared to that of a 13.5-inch shell. See E. J. Marolda and R. J. Schneller, *Shield and Sword: The United States Navy and the Persian Gulf War* (Washington: Government Reprints Press, 2001), p. 67.
66. 'The Pucara is a small, twin-engined, counterinsurgency-designated aircraft with a maximum level speed of 270 knots/1,500 km per hour at 9,845 feet. It has the capacity for 1,620 kg/3,571 lb of external ordnance or other stores and a range of 3,042 km/1,890 statute miles.' See A. H. Cordesman and A. R. Wagner, *The Lessons of Modern War Vol. III: The Afghan and Falklands Conflicts* (London: Mansell, 1990), p. 318.
67. *Falklands Campaign*, Cmnd 8758-I, para. 225, p. 20.
68. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 164.
69. Middlebrook, *Task Force*, pp. 101–2.
70. J. Thompson, 'The Land Battle', in L. Washington (ed.), *Ten Years On: The British Army in the Falklands War* (London: National Army Museum, 1992), p. 21.
71. Major General Julian Thompson recalls during the Battle for Goose Green that British soldiers 'armed with Sterling sub-machine guns threw them away and picked up SLRs from the casualties, or, better still, Argentine FALs which fired in bursts and provided more firepower'. See J. Thompson, *No Picnic* (London: Cassell, 2001), p. 77.
72. BR 1806, 1st edn, p. 189 (original emphasis).

73. 'Out of area' is a term used to describe operations in regions of the world that are beyond NATO's perimeters. See J. Baylis, 'Introduction: Defence Policy for the 1980s and 1990s', in Baylis, (ed.), *Alternative Approaches to British Defence Policy*, p. 6.
74. See Coates (ed.), *War in the Falklands 1982*, pp. 27–8.
75. See Gordon, *Rules of the Game*, p. 12.
76. Ibid., p. 30.
77. *Falklands Campaign*, Cmnd 8758, para. 246, p. 26.
78. Ibid., Annex A (1.), p. 37.
79. Ibid., Annex A (4.), p. 39.
80. Middlebrook, *Task Force*, p. 294.
81. Brown, *Royal Navy and the Falklands War*, pp. 359–60.
82. Ibid, p. 362.
83. See *British Maritime Doctrine,* BR 1806, 2nd edn, p. 48 that draws a close comparison between a layered-defence strategy and the principle of defence in depth.
84. Brown, *Royal Navy and the Falklands War*, p. 360.
85. The term 'weapons' encompasses torpedoes, mines and submarine-launched missiles. Generally, the reload capacity of a British nuclear-powered submarine is 20 torpedoes. See The Sixth Report from the Defence Committee, *Royal Navy Submarines*, HC 369 (London: HMSO, 1991), para. 50, pp. xix–xx.
86. An Argentinian C-130 Hercules transport plane was shot down by a Sea Harrier about 230 miles away from its aircraft carrier. See Cdr S. Ward, *Sea Harrier over the Falklands* (London: Cassell, 2001), pp. 300–3.
87. 'Upthreat' is a military term for being positioned ahead of other ships and therefore closer to the threat (aircraft, missile or submarine) than the rest of the fleet.
88. Nott, *Here Today, Gone Tomorrow*, p. 247.
89. The court-martial of any naval officer after the Falklands Conflict would have undoubtedly generated intense public and media interest in the service, as well as raising awkward political questions related to defence policy in the run-up to the 1983 general election.
90. The Royal Navy has traditionally court-martialled officers for a variety of sins that continued even during the preparations for Operation Corporate. Captain Mike Barrow of HMS *Glamorgan* and his navigating officer, Lieutenant Commander Ian Inskip were both under threat of court-martial for hitting an uncharted rock with a propeller in the Persian Gulf region in late 1981 while they were sailing south to fight the Argentine forces approximately six months later. See I. Inskip, *Ordeal By Exocet: HMS Glamorgan and the Falklands War 1982* (London: Chatham Publishing, 2002), pp. 15–16.
91. N. Tracy, *Nelson's Battles: The Art of Victory in the Age of Sail* (London: Caxton, 2001), p. 13.
92. See Chapter Six for a discussion of the different interpretations concerning why the air-launched Exocet missile hit the warship.
93. K. Booth, *Navies and Foreign Policy* (London: Croom Helm, 1977), p. 24.

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Culture and Operations in the South Atlantic

The Royal Navy's strategy to retake the Falkland Islands was unsurprising when viewed through a cultural filter. It reflected a predilection toward very old and well-tested beliefs that had proven successful in wars and battles in the past. This distinctive approach to warfare in the cold waters of the South Atlantic Ocean, wittingly and unwittingly, revealed an enormous amount about the significance of institutional culture in the Royal Navy. The desire for a decisive battle, albeit unarticulated, remained a very important strand in the construction of a viable strategy to destroy the Argentinian Navy. The symbolism of the 'capital' surface ship was mirrored in the role of aircraft carriers in the South Atlantic, which were at the forefront of the entire operation and dominated every stage of operations. In addition, the Falklands Conflict also demonstrated how institutional culture could create friction in warfare. Subcultural affiliation at times hindered rather than helped certain operations. Conflicts of belief about the application of new technologies like nuclear-powered submarines confounded the possibility of a truly decisive battle with the Argentine Navy; it also reduced the sinking of the *Belgrano* from a co-ordinated strike to a desperate plea for action from a besieged Admiral in the South Atlantic.

THE TECHNOLOGICAL DIMENSION

The post-war relationship between the Royal Navy and naval strategy has been characterized by revolutionary technological developments from the nuclear-powered submarine[1] to the

ship-borne helicopter[2] with a huge gamut of associated weaponry. The parameters of naval strategy were considerably widened in this period due to the enhanced capabilities and performance of new technology. Contemporary nuclear-powered submarines are a far more potent threat to surface vessels and other submarines than the previous diesel-electric technology.[3] Surface vessels with helicopters have an unprecedented ability to prosecute surface and sub-surface contacts at far greater ranges than vessels without such technology.[4] These technologies offer in addition to other developments like missiles a much broader multi-dimensional (air and sea in the case of helicopters) scope of naval operations by individual units than was previously possible. The potentiality of such technology, however, depends upon the military institution that adopts it and upon how it is incorporated into strategy. Naval strategy is composed of several interrelated factors, notably, institutional beliefs about how to fight, experience in war, technology and the enemy. In the case of the Royal Navy by 1982, only one of the four factors had remained relatively constant within the ever-shifting synthesis: institutional beliefs.

Institutionally specific beliefs about naval strategy vary between navies of different states: this accounts for why the Royal Navy believed that Operation Corporate was possible with the available assets whereas the United States Navy disagreed initially with the proposition.[5] The Royal Navy's belief system about warfare stemmed from a long and distinguished pedigree of success from which certain trends could be identified: first the importance of offensive actions. Taking the fight to the enemy had provided the Royal Navy with many famous victories to the extent that it had evolved to a subconscious level within the institution in times of conflict. Secondly, the desire to obtain decisive engagements. A hierarchy of victories and success exists within the Royal Navy and those leaders, who are revered the most, like Nelson, have achieved such results. Thirdly, capital ships are an essential component. Royal Navy strategy has traditionally been centred on the capital ship or the vessel that provides the most hitting power in its class, which by 1982 was the aircraft carrier. The Royal Navy was heavily influenced in its conception of what was possible in the campaign to retake the Falkland Islands by belief more than by any other element.

The official British analysis of the South Atlantic campaign underlined that 'The Campaign provided the Royal Navy's first experience of battle in the missile age'.[6] The boundaries of operational naval strategy were arguably more complex than

previously experienced in history due to technological advance. Naval warfare has always been a high-technology environment (more so than land warfare),[7] however, the introduction of computer automated systems and missiles had created more pressure on the human element to implement the traditional principles involved in naval strategy. These principles have been described as

> that of keeping a superior force at the decisive point; expressed in the homely phrase of getting there first with the most men. This again is concentration, timely concentration; the A,B,C, of strategy, moving on to the D,E,F. The value of a reserve constituted the decisive factor in the three estimates quoted. A reserve, if correctly constituted in numbers and position, enables you at a critical moment to be first on hand with the largest force; to *concentrate*, at the decisive period of a battle or of a campaign.[8]

One of the most significant consequences of the effect of modern technology on the parameters of naval strategy and tactics has been the reduction in reaction times to incoming threats. Missiles such as the Exocet have under certain conditions a 'launch to target' time of under a minute. Ian Inskip recalls of the Exocet that hit HMS *Glamorgan* on 12 June 1982, 'the faintest of "blips" appeared on *Glamorgan*'s bridge radar display. A little over 30 seconds later, an Exocet missile clipped the side of the upper deck, exploded and blasted holes down through two decks.'[9] Within a missile environment a concentrated fleet can be crippled or even wholly destroyed in a matter of seconds; however, this does not invalidate the principle of concentration. Rather the application of naval strategy requires a greater awareness of technology with a higher level of training to compensate for the increased intricacy. Computers and missiles are still dependent on individuals to utilize them effectively, though the enhanced capability creates pressure in terms of perceived danger.

PREFERENCES AND STRATEGY

Major-General Moore has commented that, 'Only the land forces could win the war, but the Navy could *always* lose it'.[10] The military campaign can be crudely divided into two stages, the sea/air battle and the land battle, though these stages were not mutually exclusive. A high degree of interdependency existed

between the two and reflected not a hierarchy of importance but rather the significance of integrated combat. The relationship between the political and military dimensions of the campaign was a constantly influential factor throughout the two stages of the conflict in the South Atlantic. The approach that the Royal Navy adopted toward solving the strategic conundrum of recapturing the Falkland Islands mirrored perfectly the dominant beliefs within the institution. The aim of the campaign initially was the destruction of the opposing sea and air forces. The Navy needed to assert a high degree of sea control around the islands in order to fulfil the mission of providing a successful platform for the land forces. The naval strategy that was adopted consisted of four key elements: the nuclear-powered submarines (SSNs – under the designation CTG 324.3), the Carrier Battle Group (CTG 317.8), the amphibious forces (CTG 317.0) and the land forces (CTG 317.1).[11] The nature of the naval command structure ensured that the submarines and the Carrier Battle Group were not integrated but operated independently of each other, which produced several operational failures. In addition, depriving the 'Commander, Task Group' (Rear Admiral Sandy Woodward) of the Carrier Battle Group from having direct control of the nuclear-powered submarines reduced the potential for a truly organic operational task force. In this sense, British naval strategy at the operational level became fractured: separated in theatre with different aims and needs, the control of the SSNs residing in Britain and that of the Carrier Battle Group in the South Atlantic.

The interaction of British naval strategy and underlying institutional beliefs generated a highly ambitious but also disharmonious plan of action against the Argentine forces. According to Woodward, 'Under the main directive of "Operation Corporate" I had to achieve three objectives – to neutralise the enemy navy and air force, to put our landing force ashore safely, and then to give all the support I could – air, gunfire, and logistic supplies – in order to give our land forces the best chance of forcing an unconditional surrender of all Argentinian forces in the islands'.[12] Destruction or neutralization of the opposing sea and air forces was the first directive of the Royal Navy during the Falklands Conflict which was exactly the same aim as of Jellicoe and Nelson. The key difference concerned the means to implement such a strategy. Naval commanders of the past had directly commanded the most powerful vessels to prosecute such strategies, whereas Woodward did not have command over his most powerful anti-surface warfare platforms, the nuclear-powered submarines. To a great extent, the rationale

for using the submarines in this manner can be traced to dominant beliefs within the institution, which were derived from experiences that go back to World War II. All submarines during the war were operated by separate commands because of difficulties in integrating these vessels with surface action groups due to the poor endurance capacity of the submarine itself and the subcultural division between submariners and surface warfare officers.[13] Institutional belief created a high risk/high gain strategy for the Royal Navy but it also incorporated a considerable margin for failure due to fundamental conflicts between ideas and capabilities: between those long-standing beliefs about how to fight war at sea and those more recent beliefs about how to use new capabilities such as submarine technology.

SURFACE SHIP OPERATIONS

British naval strategy in the South Atlantic was dominated by concerns about the major surface warfare platforms, notably the two ASW carriers. This planning focused primarily on what could be described as the 'capital ships' of the surface fleet, which indicated a close correlation with institutional bias. It must be recognized, however, that the British fleet could not sustain operations in the South Atlantic for an indefinite period. The operational boundaries of sustainability were clearly defined around the endurance of the two ASW carriers, HMS *Hermes* and HMS *Invincible*. Neither carrier was really suitable for the role of air defence for an entire fleet due to a paucity of fixed-wing aircraft. This fundamental flaw was a consequence of design with both ships falling into the 'light' category of aircraft carriers that did not fulfil the cultural preferences of the service. In contrast, the future aircraft carriers of the twenty-first century will overcome the shortcomings of these light carriers and should offer the Royal Navy a quantum leap forward in terms of air cover if the ships stick to the original design that allows each vessel to carry 50 aircraft. According to Middlebrook:

> There were two aircraft-carriers, the twenty-three years old *Hermes* and the almost brand-new *Invincible*, but these were 'anti-submarine-warfare' carriers, each with a squadron of Sea King anti-submarine helicopters but each with only a weak squadron of five Sea Harrier fighter-bombers. The 'V/STOL' (vertical or short take-off and landing) capability of the Harrier had resulted in both ships being fitted out in

> such a way that the high-performance fighter aircraft required for distant defence could not be operated. The last of Britain's real aircraft-carriers, the *Ark Royal*, with her Buccaneers and Phantoms, had been withdrawn from service at the end of 1978.[14]

The operational lifespan of the ASW carriers represented one of the most influential factors in the ability of the Royal Navy to continue the campaign over a specific period of time. Their importance is underlined in the memoirs of Admiral Woodward who states 'that one major mishap, a mine, an explosion, a fire, whatever, in either of our two aircraft carriers, would almost certainly have proved fatal to the whole operation'.[15] It could be added that a major mechanical defect at a critical moment would also have provoked a similar state of affairs. Using ships at a high tempo of operations, as with any other vehicle, generates significant levels of mechanical fatigue, and the technological sustainability of the carriers played an important part in determining the duration of the British operational plan to recapture the Falklands.

The Carrier Battle Group was comprised of 35 combat vessels supported by three survey ships centred on two rather small ASW carriers, two elderly assault ships, eight destroyers, and a mixed bag of fifteen frigates, two offshore patrol vessels, five mine-countermeasure trawlers and one ice-patrol ship.[16] It was a small fleet exhibiting many inadequacies: it lacked airborne early warning aircraft (AEW), and suffered from a paucity of air-defence aircraft limited to just 28 Sea Harriers and 14 RAF Harrier GR3s,[17] with escort vessels that were ill-equipped for close-range anti-aircraft attacks. One of the biggest deficiencies in the fleet was a shortage of dedicated anti-aircraft guns on all of the warships. Surprisingly, this institutional memory 'block' concerning the importance of smaller-calibre guns was nothing new to the service and two distinguished naval historians have documented its earlier manifestation during World War II.[18] The average escort in the Falklands Conflict possessed either two World War II-vintage 40mm Bofors guns[19] or two 20mm Oerlikon guns.[20] The desperation caused by the shortage of such weaponry led to incidents such as when, during the battle for San Carlos water, the Lynx pilot of HMS *Ardent*, Lt-Cdr John Sephton, resorted to firing his 9mm pistol at the attacking aircraft.[21] Even by the standards of World War II, these ships were grossly underarmed in this respect. The core problem was that the British fleet was designed for a different type of warfare. The Royal Navy expected to fight against the Soviets where submarines, missiles

fired at a distance from long-range bombers and nuclear weapons would be the main hazards. In the cases of the latter threat, surface ships were designed with uncluttered decks so that, in the event of a nuclear blast, the ship could decontaminate large areas with sprays. In the context of nuclear, biological and chemical warfare, anti-aircraft guns strewn across decks created areas that could allow a build-up of contaminated material which would be hazardous to crew safety.

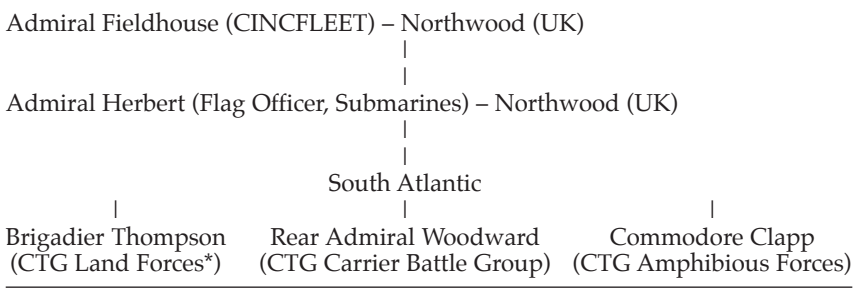
Political Directives, Planning and Problems

The British surface force was hindered to an extent by a considerable amount of confusion within the Carrier Battle Group and the amphibious forces over the political aims of the British forces deployed to the South Atlantic. Originally the political/ military directive (released in mid-April) was, 'to land . . . with a view to repossessing the Falkland Islands'[22] which was a highly nebulous command. In itself, the directive suggested limited aims through the use of the phrase 'with a view to'. This broad and highly subjective use of language could have suggested several possibilities, such as seizing a beachhead for diplomatic purposes (negotiations) or as a staging post to be held by the initial assault forces until the arrival of the second brigade that would herald the offensive push toward Port Stanley. The source of this absence of clarity stemmed from the divisions at the highest levels of the political and military chain of command (notably between the three Chiefs of Staff) as to the aims and requirements of the mission. Sir John Nott in his memoirs sheds light on the disagreements:

> I had spoken to Henry Leach at the beginning of the campaign to ask him why he was so determined that the Royal Navy could do the job with so few men. He assured me that this was an amphibious operation suited to the Royal Navy's experience and that the Royal Marine Commando, supplemented by battalions of the Parachute Regiment, was sufficient to meet the objectives of the task force.
>
> I did not believe him, although I understood that he wished to make it the Royal Navy's show. It was not my job to interfere. I consulted Dwin Bramall and senior civil servants, and their attitude was that plans would change and that the Navy itself would decide in favour of a back-up force. As I expected, General Bramall came to see me a week or two later to say that the Chiefs of Staff had decided to embark another brigade and wished to requisition the *QE2* to take it there.[23]

The command was only clarified as 'retake the Falklands' to the theatre-based commanders on 12 May.[24] Until 12 May, the planning process between Woodward (Rear Admiral, Carrier Battle Group), Clapp (Commodore, Amphibious Forces, COMAW) and Thompson (Brigadier, 3 Commando Brigade) was characterized by confusion due to the vague nature of the original directive. The physical separation between Woodward in the South Atlantic and the amphibious forces at Ascension Island exacerbated these tensions over military aims between the three commanders that was not completely alleviated by the overall commander Admiral Fieldhouse[25] due to his location in the United Kingdom, far removed from the operational theatre. Consequently, Britain despatched not only a fleet with many deficiencies but one that contained significant divisions at the highest levels of command. (See Figure 2.)

Figure 2 – Military Command Structure of Operation Corporate



Note: *Replaced in theatre by Major-General Moore after the initial landings phase.

The timescale surrounding Operation Corporate was devised on 17 April at Ascension Island and used a simple planning tool that encapsulated all of the key factors of the military strategy to recapture the Falklands within a specific time frame. The end date of the operation was provided by the operational lifespan of the major surface vessels that was predicted to be mid- to late-June and;[26] a month was allocated for the land campaign. However, the key factor in determining the start date of the land assault was the delayed arrival of the specialist amphibious vessel HMS *Intrepid* that had been in the process of being phased out of the Royal Navy as part of the reforms of *The Way Forward*. This ship needed more time to be brought to an adequate level of operational effectiveness and was expected to be ready for operations in the South Atlantic by 16 May. The arrival of this ship provided the start date for the landing window, 16 May–25 May.[27]

The British operational plan provided Woodward on arrival within the vicinity of the Falkland Islands with approximately two to three weeks to neutralize the Argentine Navy and Air Force in order to facilitate a successful landing. In addition, Special Forces had to be inserted during this period as a result of the need to fill an intelligence gap about the dispositions of Argentine forces on the islands.[28] The tight timescale created a high degree of urgency concerning the strategy to retake the Falklands and determined the operational application of British naval force against the Argentine armed forces in the South Atlantic. The surface ships, in particular the ASW carriers, always had to be within helicopter range of the islands to infiltrate and exfiltrate Special Forces during the pre-landings phase.[29] The time factor was a significant constraint and at the same time a source of pressure to maintain the initiative.

COMMAND AND SUBCULTURES

Command and control structures in times of war are vital facets of military institutions whose effectiveness or non-effectiveness can often determine the outcome of a particular conflict. The problems with the British command structure during Operation Corporate is succinctly described in the *Fundamentals of British Maritime Doctrine*:

> *Operational command* was vested in the Commander-in-Chief Fleet (CINCFLEET) at the designated *Joint Headquarters* in Northwood, Middlesex. No single operational command was created in theatre. CINCFLEET commanded the two Naval Task Forces, the carrier and amphibious forces (TF317) and the nuclear powered submarines (TF324). The Land Force Commander, once established, also reported directly to the Joint Headquarters. However, before and during the landing the Commander Task Group 317.8, afloat in the carrier group, bore much operational as well as tactical responsibility. Once the amphibious lodgement was secure, command of land forces was transferred from the Commander Amphibious Forces afloat to the Land Forces Headquarters ashore. The command system proved to be less than perfect . . . [30]

A subcultural analysis of the British chain of command during Operation Corporate reveals that submariners dominated the

highest strategic (in the UK) and operational (in-theatre) positions. The overall commander of Operation Corporate, Admiral Sir John Fieldhouse (CINCFLEET) was a submariner by profession and his command headquarters was located in Northwood. Below him was Admiral Peter Herbert (also Northwood) who as Flag Officer, Submarines (FOSM) commanded TF 324, the SSNs sent south to the Falklands. At the operational level, the senior officer in the South Atlantic was Rear Admiral Sandy Woodward, another submarine specialist, placed in charge of the Carrier Battle Group. Below him, though (officially) of equal status but with less rank were Commodore Michael Clapp, Commodore, Amphibious Warfare (COMAW) in charge of the amphibious group and Brigadier Julian Thompson RM of the land forces who would be replaced in-theatre by Major General Jeremy Moore RM after the initial landings.

The predominance of submariners begs the question as to whether the relationship between the command team and that of the operation was asymmetric. The Falklands Conflict demanded more than anything else an expertise in aircraft carriers/air warfare operations and amphibious assaults yet the Royal Navy selected submarine specialists for the key posts. At the operational level, the choice of Rear Admiral Woodward was unusual. Placing a submariner with some experience of surface-ship warfare but not with aircraft carriers, air groups or amphibious warfare for such a highly specialized (and unscripted) operation was a significant risk. It can be compared to the replacement of Admiral William Halsey (an aircraft carrier expert) with Rear Admiral Raymond Spruance (a cruiser specialist) on the eve of the Battle of Midway in 1942, but the key difference was that the US Navy was forced to make the change due to circumstances, not out of choice.[31] In the case of Operation Corporate, the natural candidate for in-theatre command was Admiral Sir Derek Reffell (Flag Officer Third Flotilla in charge of the aircraft carriers with significant amphibious experience) but he was not given the job.[32] One former senior naval officer recollects his surprise at this set of circumstances as well but also mentions that Reffell had been refused access to Northwood and so his highly valuable experience was never utilized.[33]

The relationship between Admiral Fieldhouse and Rear Admiral Woodward as specialists in the same field cannot be ignored in the choice of the Carrier Battle Group command.[34] Submariners are a distinct subculture within the officer corps whose working environment is confined in every sense of the word, with small crews and often on lonely patrols by themselves.

This in turn produces a highly self-reliant officer who must be involved in every aspect of the submarine's inner workings due to the obvious hazards of working below the sea – one mistake can and will be fatal. The hazards of working underwater in such powerful vessels means that disaster can occur within minutes – or, in the worse case scenario, seconds and officers must be prepared to make quick assessments as well as to enact decisions instantly without the luxury of referring to others. In this respect, the Submarine Service produces extremely competent officers and, to a large degree, the two Admirals had been running on exactly the same career track within the Royal Navy with only seniority dividing them. The institution had selected them for fast-track promotions within the same specialization, which would inevitably mean that in terms of characteristics and outlook the levels of homogeneity would be high. Another offsetting factor was evident in the form of a shared institutional reality in which common norms and values provided the same overall picture of naval strategy in the South Atlantic. In other words both men were tuned to the same wavelength which was broad enough to allow for differences to exist,[35] and yet at the same time the command structure ensured that the hierarchy of decision-making remained in place. One naval historian suggests that

> The generally successful working relationship which obtained between Fieldhouse and Woodward in 1982 owed much to their earlier acquaintance as submariners, and was more a case of extemporized method surmounting higher-command organization than it was a vindication of that organization. The command structure risked disaster, and with other personalities in the key positions it might have become inoperable. The considered opinion of some senior officers is that the inconvenient command-and-control lessons of Operation Corporate have been disregarded.[36]

The command structure of Operational Corporate was highly idiosyncratic and much of its unique nature stemmed from a subcultural bias at the upper levels of command that generated a wave of friction at lower levels down the chain of command.

INSTITUTIONAL CULTURE AS A SOURCE OF FRICTION

The interaction of specific subcultures within this 'unusual' naval command structure at the operational level generated significant

amounts of friction between the senior officers in theatre. The relationship between Rear Admiral Woodward and the other two CTGs, Commodore Clapp and Brigadier Thompson, evolved a distinct rather than uniform nature as a result of interpersonal conflict stemming from a variety of sources. The most significant factor in the disruption of relations between the three CTGs was the absence of a senior officer in the South Atlantic, above all three CTGs in terms of rank and second only to Fieldhouse. Thompson highlights the problem:

> There was one key player missing from this chain of command: a three-star (Vice Admiral) operational level commander interposed between Fieldhouse, the Task Force Commander at Northwood, and the three group commanders tasked with the Falklands operation, Woodward, Clapp and I. We all reported back directly to Northwood, eventually 8000 miles away. Woodward is sometimes incorrectly described as the Task Force commander, and this was entirely due to the 'woolly' command set-up. At times, Northwood would treat him as the overall commander down south, asking him for opinions and decisions that were outside the remit of his role of commander of the Carrier Battle Group, but without informing us that they had done so. Clapp and I were repeatedly assured that as the senior, he would arbitrate over shared assets, deciding where they would be allocated if dissension arose. His role was described as 'Primus inter pares', but left control and responsibility firmly with the Task Group Commanders. It was an uncomfortable compromise, leaving much to personalities, requiring a degree of tolerance and understanding all round; two characteristics which are often in short supply under stress.[37]

The three operational commanders (CTGs) in theatre, Woodward, Clapp and Thompson, were actually of equal status within the naval command hierarchy and consequently no single commander had authority over the others. The division between Woodward and Clapp/Thompson was further reinforced by the physical separation of the three commands after 18 April when the 'Carrier Battle Group' sailed in advance of the amphibious forces. Brown records:

> Admiral Fieldhouse and his retinue flew back to Britain on the same day, leaving Rear Admiral Woodward twenty-four hours to make his final preparations before sailing with the 'Carrier Battle Group' – Task Group 317.8. Commodore

> Clapp was to remain at Ascension until the ships of the Amphibious Group (TG 317.0) had assembled and all the units of 3 Commando Brigade (TF 317.1) had arrived and been given some training ashore and afloat.[38]

The recent publication of the memoirs of Commodore Clapp has provided more evidence that a degree of friction existed in the relationship between Woodward, Clapp and Thompson. Clapp admits:

> Relations with one's co-Task Group Commanders are always difficult as each has different priorities, needs and problems. (One Commander's bad weather is another's good and so on.) As far as my relations were concerned I was determined to keep the Argentinians as my enemy and that on no account was I going to get into any battle with Julian or Sandy, and certainly not with my Task Force Commander. Because of the requirement to be co-located and of co-equal rank, relationships with Julian were, I still consider, very good. Relationships with Sandy who was both senior and operating at a considerable distance from me were bound to be more difficult, particularly since the secure voice satellite system (DSSS) was so infuriatingly erratic. His voice sounded like a Dalek and it was extremely difficult to hold an easy and relaxed conversation.[39]

The three commanders in theatre were given very little time to develop a closer professional relationship and consequently, due to pressures derived from the institutional culture of the service, greater scope for misunderstanding and friction was incorporated into the naval command structure. The inequalities in terms of rank made the notion of co-equal status between the CTGs very difficult to sustain. From an institutional perspective, the Royal Navy revolves around a hierarchical structure in which status is everything. It was inevitable that Clapp's position would carry considerably less weight than that of Woodward due to the sheer distance in terms of rank between a Commodore (which was just a title at that stage) and that of a Rear Admiral. Clapp's memoirs are revealing from this perspective concerning the events leading up to the disaster at Bluff Cove on 8 June:

> This, once again, highlighted the difficulties of communication, personalities and, I suspect, rank. While Jeremy [Moore] was delighted with his clear secure voice conversations with Northwood, I don't recall that he ever tried the naval DSSS system to speak to Sandy himself.

> Perhaps *Fearless*'s kit was exceptional but besides making it sound as if one was talking to someone who spoke like an agitated Dalek, it had the infuriating habit of either cutting out their voice or one's own. Conversations on subjects of considerable concern inevitably were made extremely difficult, needing on both sides an enormous degree of patience – a virtue that was in increasingly short supply.
>
> I began to regret offering to try to act as a messenger between the two Two Star Officers who inevitably saw themselves, correctly, as senior in rank and probably found it difficult to accept that I was a co-equal CTG, responsible, like them, to the CTF for my decisions.[40]

The disaster at Bluff Cove, or more accurately Fitzroy, resulted in two landing ships, RFA *Sir Galahad* and *Sir Tristram*, being attacked while alone in daylight by Argentine aircraft on 8 June. It was the worst incident in terms of fatalities and casualties for the British forces in the entire conflict with 43 dead and over 200 wounded.[41] It was a typical example of organizational friction between the British Army and the Royal Navy and within the two naval commands in theatre. What precipitated the chain of events leading to the Bluff Cove incident was a sudden push forward (considerably ahead of the British front lines) by elements of 2 Para (part of 5 Infantry Brigade) to Fitzroy using a helicopter on 3 June. The problem that arose for the commander of 5 Infantry Brigade, Brigadier Tony Wilson, was how to support these troops. It was extremely difficult to do this by land due to the 35-mile distance between Goose Green and Fitzroy. In addition, helicopter operations were restricted due to the sinking of *Atlantic Conveyor*, which carried the bulk of the helicopters on 25 May. The best option would be to do an amphibious landing at Fitzroy by sea. Linkages and communications with the Royal Navy were not good at this stage, as exemplified when HMS *Cardiff* shot down a British Army helicopter killing 5 Infantry Brigade's Signals Officer and several other soldiers who were trying to set up communications with the lead elements at Fitzroy on 5 June.[42]

Commodore Clapp tried to fulfil the requirements of 5 Infantry Brigade by pursuing a naval option that suggested an insertion by one of the Landing Platform Dock ships, either HMS *Fearless* or *Intrepid*. The idea of using one of these large ships (12,120 tonnes) was firmly vetoed by Northwood on 5 June for fear that the potential loss of such a ship would have a disproportionate effect on ministers in London and sap the will to continue prosecuting the campaign.[43] Clapp, however, was given a different impression concerning the Landing Ship Logistics, like *Sir Galahad*, which

were not in the same category of worth and had no political strings attached.[44] The evidence that the linkages with Admiral Woodward had also failed was apparent in the absence of any form of escort for these two landing ships on 8 June. Woodward was never in favour of the operation due to his opinion that the soldiers should walk and his comments on hearing about the incident are revealing:

> I could strangle that COMAW [Commodore Amphibious Warfare]. After being told not to plan on putting *Intrepid* and the LSLs into Fitzroy, even with a frigate in daylight (but possibly given to understand he might consider one LSL a reasonable bet to get by unnoticed – see remarks 4 June). And what does he do but fire the troops in by two LSLs in broad daylight with predicted good flying weather.[45]

It is clear that the Bluff Cove incident revealed the fissures in the interfaces between commands both naval and army in the Falklands Conflict. Undoubtedly perceptions and positions in relation to the events on the ground shaped responses. A compounding factor that cannot be underestimated concerns hierarchical command structures based on rank that do not adequately support the importance of role. Rank is an all-important facet within military institutions and this factor acted as a major source of friction and division within the command structure for Operation Corporate. The friction was most apparent between the land forces and the Carrier Battle Group and it placed considerable pressure on the interface between the two commands, that of Commodore Clapp who was, at times, in an impossible position.

SUBMARINE WARFARE

Submarines were very much a secondary element within the institutional culture of the Royal Navy by 1982 despite the fact that these platforms represented the most powerful anti-ship vessels in the inventory of the service. In many ways, the problems associated with the deployment of the British submarines reflected a conflict between institutionally held beliefs about these assets and their incorporation within the naval strategy to liberate the Falkland Islands. In contemporary naval warfare, nuclear-powered submarines (SSNs) are arguably the most potent threat to surface forces that a navy can deploy to a

particular theatre by virtue of stealth and endurance. SSNs do not have to refuel during operations, due to the power of the nuclear reactor, and possess several advantages over the traditional diesel-electric submarines, which have to surface periodically to recharge batteries.

In 1982, the Royal Navy had two types of SSN, the older Valiant class and the more modern Swiftsure,[46] that offered the British government the fastest means of placing a British naval presence around the Falkland Islands. The deployment of the SSNs provided the Royal Navy with the capability to prosecute a sea-denial strategy against the Argentine forces that would deny or make very hazardous the transportation of bulk supplies by sea. It had the effect of forcing the Argentine planners to rely more heavily on an air bridge by means of Hercules C-130 transport aircraft,[47] though this method was not as efficient in moving large amounts of stores quickly. British SSNs provoked a shift in Argentina's policy of delivering supplies to the Falklands and raised the stakes concerning the importance of Port Stanley airfield which, if neutralized,[48] could effectively impose a blockade, or in other words the essence of a successful sea-denial strategy, on the Argentine forces.

The deployment of the British SSN force of initially three submarines (HMS *Conqueror*, HMS *Spartan* and HMS *Splendid*) reinforced the British government's political stance with the imposition of the 200-mile maritime exclusion zone (MEZ) on 12 April 1982 just ten days after the Argentine invasion. The purpose of the exclusion zone was clearly revealed in *The Falklands Campaign: The Lessons*: 'On 23 April we warned that any approach by Argentine forces which could amount to a threat to interfere with the mission of British forces in the South Atlantic would be dealt with appropriately'.[49] The imposition of the exclusion zone represented an attempt to construct a legal framework that was internationally recognized for the employment and deadly use of naval forces in a situation in which war had not been officially declared. A declaration of war provides not only a statement of intent but also legal and moral precedents that set out the parameters concerning the use of force. Sir John Nott has recently revealed the dilemmas facing the British government concerning the use of force in 1982:

> The rules of engagement for our submarines posed rather different problems. As the submarines moved fast and submerged underwater, they only emerged infrequently to send and receive burst signals from satellite; so with two submarines fast approaching the Falklands, forethought was

> needed about what orders they should have when they encountered Argentine naval shipping or merchant vessels supplying the invasion force. It was this discussion which led to the recommendation for a maritime exclusion zone, which I announced in Parliament the following Wednesday.
>
> One of the most vexing questions, extraordinary as it seems, was whether we could say that we were at war. Evidently not; we were strongly advised by the excellent Foreign Office lawyers not to declare war but to act entirely under Article 51 of the United Nations Charter, which gave the right to countries to act in their own self-defence.[50]

The exclusion zones gave the nuclear-powered submarines carte blanche concerning the right to sink Argentine vessels around the Falklands. According to Middlebrook, the initial deployments of the SSNs were as follows:

> The submarines, *Spartan*, *Splendid* and *Conqueror* arrived in the South Atlantic on 11 April. *Conqueror* went to South Georgia and *Spartan* and *Splendid* took up station around the Falklands, *Spartan* watching the approaches to Stanley and *Splendid* patrolling between the Argentinian coast and the islands.[51]

The tactical use of the SSNs reflected concepts and ideas that had evolved during the Cold War, particularly those related to the North Atlantic theatre of operations. In the North Atlantic, NATO's SSNs were used primarily in the anti-submarine warfare (ASW) role against the main threat from Soviet submarines. The rationale was bedded in the understanding that the best way to neutralize a submarine was with another submarine. The two types of armament that were available on British SSNs reflected the focus on the ASW work with the most advanced torpedo being the Tigerfish Mark 1, specifically designed for neutralizing other submarines,[52] and the older Mark 8, 'WW II-era straight-running (nonhoming) torpedo'.[53] The torpedoes themselves were an indication of the changing doctrine within the Royal Navy concerning the use and deployment of submarines. During and immediately after WW II, naval strategy used submarines primarily in an anti-ship role.

The expansion of the Soviet submarine fleet in the 1960s, particularly the development of submarine-launched ballistic missiles (SSBN), resulted in a NATO-wide orientation toward employing submarines in an anti-submarine role. Till reinforces this theme by arguing that 'there is not much doubt that the Soviet Navy's main wartime role would be the deployment and defence of its own SSBNs'.[54] Doctrine (British and American)

devoted to how SSNs should be deployed was closely tied with technological developments such as the Sub-Harpoon and Tomahawk missiles that emerged respectively in the late 1970s and 1980s.[55] The development of the Tigerfish torpedo reflected the emphasis on anti-submarine warfare yet the doctrine surrounding the use of SSNs was constantly altering from the 1960s to 1980s. It reflected four phases of thinking: phase one (1950s) anti-surface warfare,[56] phase two (1960s) anti-submarine warfare,[57] phase three (1970s) intelligence gathering/special operations,[58] and phase four (late 1970s–1980s) a re-emphasis on anti-surface warfare capabilities.[59] Interestingly, all three British Admirals involved in Operation Corporate, Fieldhouse, Herbert, and Woodward, would have served in the nuclear 'boats' during several of these different phases of thinking concerning how to use this very powerful naval technology. The strategy behind the deployment of SSNs in the South Atlantic certainly corresponds to an emphasis on intelligence-gathering/special operations initially, anti-submarine and anti-ship operations.

The SSN force was deployed in a zonal strategy around the Falklands. There were three zones, Northeast, Northwest and the South. The rules of engagement stated that no submarine was allowed to cross into another zone even if pursuing an important warship.[60] Perhaps these rigid rules reflected the years of training in the North Atlantic that was a relatively dense environment in terms of submarines during the Cold War. The significant numbers of NATO and Soviet submarines created a situation in which international incidents or the risk of 'blue-on-blue' was a distinct possibility and resulted in the formulation of strict operational rules to minimize the inherent dangers. The South Atlantic was, however, a very different environment with fewer submarines and the British forces possessed a considerable advantage by knowing roughly the location of the Argentine submarines (courtesy of intelligence intercepts). Two were laid up in Argentina, the *Santa Fe* was put out of action in South Georgia on 25 April,[61] and the *San Luis* was operating within a 20-mile radius of the Falklands.[62] The sheer complexity of operations facing the submarine commanders has been recently revealed in a first-hand account by another naval officer who records on 30 April that '*Conqueror* was trailing *General Belgrano* and *Splendid* had latched onto three frigates, hoping they would lead her to *Veinticinco De Mayo*. *Spartan* was still after the *San Luis*'.[63] Other accounts about HMS *Splendid*'s patrol suggest that these ships were actually Argentine Type 42 destroyers (that in all likelihood would be escorts for *Veinticinco De Mayo*) and despite having

them in his 'sights' the commanding officer of the SSN was not allowed under the existing rules of engagement to sink them. From this narrative, it seems that HMS *Splendid* trailed the warships for a period of time without sighting the aircraft carrier before being ordered elsewhere by Northwood.[64] The upshot of this set of events was that by 2 May, the only submarine in contact with a major grouping of Argentine ships was HMS *Conqueror*.

The Belgrano

The most successful outcome of the deployment of the nuclear-powered submarines in the Falklands Conflict was the relative ease by which they managed to defeat the entire surface fleet of the Argentine Navy by sinking a single ship, the *General Belgrano*, on 2 May 1982. The Third Report from the Foreign Affairs Committee, Session 1984–85, describes the events leading up to the sinking as follows:

> 2.8 On Friday 30 April 1982, the British War Cabinet authorised changes in the Rules of Engagement for the Task Force, specifically to permit a submarine attack on the Argentine aircraft carrier *Veinticinco de Mayo* outside the TEZ, an attack which did not ultimately take place. Some time on the same afternoon an oiler accompanying the Argentine cruiser *General Belgrano* was detected by the nuclear-powered submarine *HMS Conqueror* near to, but outside, the TEZ, and on the following day the submarine made visual contact with the *Belgrano* herself. This was reported by the submarine commander to naval headquarters at Northwood but, since existing Rules of Engagement did not then permit an attack outside the TEZ, the submarine merely continued to shadow the cruiser.
>
> 2.9 Shortly after noon (BST) on Sunday 2 May, the War Cabinet, meeting at Chequers, authorised a change in the Rules of Engagement to permit submarine attacks on other Argentine surface ships outside the TEZ, and this information was signalled by Northwood to the fleet. Shortly before 8.00 pm (BST) (4.00 pm local time) the *Belgrano* was struck by two of three Mark 8 torpedoes launched by the *Conqueror* and, just over an hour later, the *Belgrano* rolled over and sank. 368 of the *Belgrano*'s crew of 1,138 men lost their lives in the attack.[65]

The attack on the *Belgrano* was actually initiated not by Admiral Fieldhouse or Admiral Herbert but by Admiral Woodward with

the Carrier Battle Group. The Argentine naval forces believed that the British forces were staging a landing. They countered by a pincer strategy that was comprised of the *Venticinco de Mayo* with escorts as the northern arm and the *General Belgrano* with escorts as the Southern arm. If the British forces were engaged in a landing elsewhere then the remaining fleet would be caught in an attack on two fronts.

British naval strategy to draw the opposing Argentinian naval forces into battle succeeded extremely well. It was, in effect, a typical example of an offensive and aggressive strategy that had been used by the Royal Navy for hundreds of years. The dilemma facing Woodward was how to deal with the incoming threat without the ability directly to command the SSNs. The Carrier Battle Group faced an extremely hazardous situation in the light of the Argentine pincer strategy, which was heightened by the inability to close with the favoured target at the critical moment (and most dangerous threat), the aircraft carrier *Veinticinco de Mayo*. It also raises questions as to why a third of the submarine force was ordered to hunt for an Argentine submarine that posed so little danger at that stage (the landings were three weeks away) whereas its reallocation to help search for the aircraft carrier would have improved the chances of success considerably. Clearly this incident revealed that the strategic and in-theatre naval commands were 'out of kilter' at a critical moment. Consequently, the inflexibility in the tasking of the nuclear-powered submarines meant that the only other option in terms of sinking a major Argentine vessel was the *Belgrano*, which was still being shadowed by HMS *Conqueror*.

The *General Belgrano* was a formidable threat to the surface vessels of the Royal Navy, originally constructed by the Americans as USN *Phoenix* (1938), 13,479 tonnes, 15 6-inch (152mm) guns, 8 5-inch (127mm) dual-purpose guns, 20 40mm AA guns, 2 20mm AA guns, 2 Seacat systems, 1 Alouette III helicopter.[66] In many respects, the cruiser was a dinosaur in terms of age and technology, but also a highly dangerous anachronism designed with armour plating that offered protection from modern bombs, shells and missiles. To sink the *Belgrano* with the assets available to the Carrier Battle Group like Sea Harriers and frigates was an extremely difficult proposition and one that would be in all probability a costly option. *Belgrano* was not alone and her escorts included the destroyers *Piedra Buena* and *Hipolito Bouchard* which were both armed with 4 5-inch dual-purpose guns and 4 MM.38 Exocet missiles.[67]

The positioning of the *Belgrano* group was a critical element in

Rear Admiral Woodward's argument to force Northwood to alter the rules of engagement to enable HMS *Conqueror* to neutralize the threat. On 1 May, at the time when the signal was despatched to *Conqueror*, the *Belgrano* group was approximately 300 miles from the Carrier Battle Group[68] or about 12 hours sailing time away at 25 knots. Woodward's dramatic signal to HMS *Conqueror* 'From CTG [Commander Task Group] 317.8, to *Conqueror*, text priority *flash* – attack *Belgrano* group'[69] was sent by means of satellite to the submarine. In Northwood, Admiral Herbert took the signal off the satellite relay before it could be sent to *Conqueror* because it was illegal. Woodward had no authority to send such a signal to the SSNs. Yet, the dramatic nature of the signal galvanized the UK command structure into ordering the sinking of this ancient mariner which the former Secretary of State for Defence describes as 'one of the easiest decisions of the whole war'.[70] The *Belgrano* was sunk as a result of Woodward's influence on the British command structure, despite the knowledge that the Southern pincer was actually outside of the TEZ, and moving away from the Carrier Battle Group after the Argentine Navy cancelled its plans to attack the Royal Navy due to an inability to launch an airstrike from the *Veinticinco de Mayo* as a result of a lack of wind.[71]

The exclusion zones were an attempt to legitimize naval force around the Falklands. Legitimization, however, created restriction in terms of the use of SSNs, not to mention the protracted public controversy after the sinking of the *Belgrano*. Nevertheless, two very old torpedoes[72] fired from a modern nuclear-powered submarine neutralized the entire surface fleet of the Argentine Navy, which returned to the Argentine coastline and played no significant part in the conflict:[73] the most cost-effective naval engagement in modern naval history. An equally effective measure that was produced by the destruction of the *Belgrano* concerned the redeployment of the British submarines off the coastline of Argentina near the locations of the major air bases. The lack of airborne early warning (AEW) was crudely compensated in this manner with the submarines warning the British surface ships about hostile aircraft taking off. Clapp reveals the new roles of the submarines after the Bluff Cove incident:

> I did regret not sending a warship because it might have interpreted the air raid warnings correctly and could have encouraged the RFA Captains to place as many small arms around the decks as possible at the appropriate time. I don't think the RFA Captains had been informed that we were

> getting our air raid warnings from submarines off the mainland coast and that they were therefore not specific on destinations.[74]

CULTURE AND OPERATIONAL COMMAND

The unique nature of the British naval command set-up placed greater emphasis on the role of specific leaders in-theatre. Rear Admiral Woodward was arguably the dominant figure in the implementation of British operational naval strategy with regard to the Carrier Battle Group in the waters around the Falklands. It is perhaps no surprise that after the conflict, his memoirs should equally take the lead (in terms of popularity) concerning the naval narratives that have emerged from the South Atlantic campaign. Woodward had been steeped in the institutional culture of the Royal Navy throughout his career and recalls of his formative time at the *alma mater* of naval officers (Britannia Royal Naval College) in his account of the Falklands Conflict:

> It was built not only as a place of learning and training, but also as a symbol of British sea power. Its position was carefully chosen, high on a bluff, looming over the estuary of the river, beyond which are the waters of the English Channel – the waters of Jervis and Hood, of Hawke and Rodney, of Howe and Nelson, of Fisher and Jellicoe, of Pound and Cunningham. We were not taught, perhaps as were our peers in the other world of public schools and grammar schools, that such men should be treated as heroes. Our instruction was more on the lines of: 'These are the kinds of men who have always commanded the Fleets of the Royal Navy, and the kind of men you should try to emulate'.[75]

Admiral Woodward faced an extremely difficult strategic situation in the South Atlantic with the enemy possessing larger combined forces yet despite this he still had a high degree of confidence in his own forces. Much of this confidence stemmed from the inculcation of an institutional memory that stressed that it was not unusual for the Royal Navy to engage larger forces and win. In his memoirs, Woodward reveals the impact of institutional memory on him personally:

> I was also taught some of the folklore of the RN – of the words of Admiral Lord Hawke before the Battle of Quiberon

> Bay, when he was warned by one of his officers of the extreme danger of the stormy shallow waters which protected the French fleet: 'I thank you for doing your duty in warning me of the danger. And now face me towards the enemy.'[76]

The degree of confidence in the ability of the Royal Navy to triumph against the opposing forces in the South Atlantic was revealed in a meeting about strategy between Woodward and Fieldhouse at Ascension Island during the pre-landings period:

> The first aim was to encourage the Args to leave some of their navy and air force in the north. The second aim was to make them commit their sea and air forces in defence of the Falklands against an apparent British landing on 1 May.[77]

On the surface, the second aim may appear vague but in view of the Royal Navy's culture – but never explicitly articulated – it can be extrapolated that the decisive battle was not far from the forefront of the strategic thinking within the Royal Navy during the planning and implementation phases of the operation. In other words, draw the enemy to sea and sink them but, of course, unlike Nelson, Woodward as a submariner by trade did not want to engage surface ship to surface ship but instead tempt the Argentine ships to run inadvertently into his nuclear-powered submarines. The effect would be the same as an old-fashioned sea battle but the means was profoundly different – a latter twentieth-century solution to an age-old naval strategic aim – sink the enemy at sea in a decisive encounter.

THE STRATEGY OF THE OFFENSIVE

Deception was an important element in the first stages of the British naval strategy in the South Atlantic. It was used as a means of coercion in the sense that Argentine assets were either restricted to one area or encouraged to move into another sector of the battlezone. The Carrier Battle Group used the passage from Ascension Island to the Falklands to influence the Argentine forces in several ways. First of all, the 'fleet' was divided into three separate groups, with one group of frigates/destroyers sent south about 1,200 miles from Ascension Island as quickly as possible.[78] Another group, comprised of HMS *Antrim*, HMS *Plymouth*, HMS *Endurance* (HMS *Brilliant* on 24 April) and the tanker *Tidespring*, was sent to execute Operation Paraquet, the

recapture of South Georgia. The third group was centred around the ASW carriers which avoided the obvious line of passage south to elude Argentine submarines and 'set off on a course which might just suggest we were approaching Buenos Aires rather than the Falklands'.[79] The level of deception included firing off chaff rockets if Argentine aircraft were spotted. The chaff 'blooms' would create the false impression that the amphibious forces were with the main task force.[80] Middlebrook records:

> Argentinian Boeing 707 military airliners made a series of day and night flights starting on 21 April, attempting to track the approach of the task force. They were successful in plotting the general position of the aircraft-carriers when Sea Harriers had to be sent up to turn them away at ranges varying between 80 and 130 miles. No shots were fired; the Rules of Engagement did not permit the Harriers to attack the unarmed airliners until 25 April after a warning had been sent to the Argentinians. The Boeings then kept their distance.[81]

British naval strategy successfully misled the Argentinians during this pre-landings phase which provided the inferior forces (in terms of size) with the initiative in the first initial stages that in the long term cost the invaders the conflict.

The deception plan of the Royal Navy proved very effective because during 30 April/1 May, the Argentine Navy was convinced that the landings were taking place and consequently sailed into highly dangerous waters in which SSNs were operating. The British Carrier Battle Group was also well prepared for a head-to-head engagement with the Argentine Navy (if necessary) and had practised for such an eventuality with 'surface attack groups'[82] which included painting black lines on the Type 42s so that the Sea Harriers could distinguish them from the identical Argentine Type 42s.[83]

The use of surprise, like deception, acted as a force multiplier for the small Carrier Battle Group operating around the Falkland Islands. The success of Operation Paraquet depended to a large degree on the surprise of the swift assault from the sea. The level of surprise achieved on the poorly organized Argentine force left on South Georgia was documented in *The Falklands Campaign: The Lessons*:

> The first action at sea took place off South Georgia when on 25 April the Argentine submarine *Santa Fé* was attacked on the surface some five miles from the main harbour at Grytviken. She was badly damaged and subsequently

> beached. The same day the Island was repossessed by Royal Marines and Special Forces (which comprise the Special Air Service (SAS) and the Special Boat Squadron (SBS) of the Royal Marines (RM)).[84]

The choice of location for the beachhead at San Carlos definitely reduced the effectiveness of the Argentine strategy to defend the Falklands. It was a seaborne assault from an unexpected location. Argentine strategy relied to a considerable extent on the assumption that the British forces would attempt a 'head-on' assault on Port Stanley in the same manner as the United States Marine Corp's offensive strategy. Consequently the surprise effect of the San Carlos landings left the Argentine defences on East Falkland exposed and vulnerable to attack from the West.

AIR WARFARE

The success of the ASW carriers in the Falklands campaign was dependent on many factors. The relationship between the positive application of British strategy exploiting the negative aspects of Argentine strategy accounts for much of the good fortune. The disposition of the carriers well away from the potential dangers of the inshore battlezone was a controversial yet pivotal judgement with a wide range of consequences. Woodward writes of those critical of his decision:

> it was the highly reputable editor of the *Daily Telegraph* Max Hastings who repeated the charge, made of course by others, that I should have been awarded the South Africa Star, because I positioned HMS *Hermes* so far back to the east of the action.[85]

Argentine Air Force tactics that provided no fighter cover to deal with the threat of the Sea Harriers accounted for much of the success of the British forces, along with the extreme ranges involved in operating from the Argentine mainland. In many cases the attacking aircraft, especially the smaller Skyhawks, simply did not have enough fuel to sustain air combat with the Sea Harriers at those distances. Thompson has stressed that

> At the time of the landings of San Carlos, out of a total of around 200 aircraft, the Argentinians had the following deployed in the south: thirty-eight A-4 Skyhawks, six Naval Skyhawks, twenty-four Daggers, six Canberras, and six

> Super Etendards; a total of 80 aircraft. The British had 25 Harriers. It was geography that forced the Argentinians to operate at the limits of their range, not British air supremacy… The threat posed to the small British carriers by the Argentine air force forced them to operate well to the east of the Falklands. So during and after the landing at San Carlos the Harrier CAP was unable to remain on station for any length of time (a maximum of 30 minutes, seriously reduced during low-level, high speed chases).[86]

The handling of the British air assets has generated considerable debate within the Falklands literature and strong criticism from senior pilots who felt that the higher theatre-based management did not fully appreciate its capabilities. One decorated Sea Harrier pilot argues:

> Had the Command in the Falklands understood the Sea Harrier and its capabilities better, the aircraft could undoubtedly have been used to greater effect and the war might well have been a less costly affair. In my view, it needn't have been 'A damned near-run thing'.[87]

In the defence of the more senior commanders, the Sea Harrier was a very new aircraft[88] and very few people within the service apart from the pilots themselves knew a great deal about the potential of the aircraft. However, these differences also highlight to a great extent subcultural divisions within the service and reluctance by those holding the highest commands to devolve authority down to much junior but more knowledgeable subordinate officers to construct the air strategy. The need to protect the capital ships placed enormous strains on pilots operating at some distance over the beachhead with flying schedules that generated dangerously high levels of fatigue.[89] It was a command decision by Woodward himself not to use standard operating procedures to rotate the efforts of the carriers and rest the pilots that Captain Lin Middleton of HMS *Hermes* (an aviator by training) advised.[90] Yet, the co-ordination of Sea Harriers with ship-based radars provided a relatively effective means of compensating for the absence of the early airborne warning aircraft (AEW), though obviously the major flaw was in terms of range. One consequence of the range factor and also the construction of the air strategy by non-aviators meant that the British aircraft engaged Argentine aircraft after bomb runs on ships rather than before the strikes had been initiated: an apparently small but critical shortcoming. As Ward comments:

> The air defence of the San Carlos beach-head was, in my opinion, less robust than it could have been thanks to the Flag's policy concerning the positioning of the *Hermes* Sea Harrier CAP [combat air patrol] aircraft. By keeping the 800 Squadron CAPs high above the Amphibious Operating Area and waiting for enemy aircraft to attack the ships in San Carlos before engaging them, the Flag did not take proper advantage of a significant level of extra deterrence. (This high CAP policy was akin to saying, 'Come and beat shit out of our ships but stand by because after you have done your business we shall try to knock you down.') It would appear now that the low-level 801 CAPs from *Invincible* were solely responsible for turning away the significant number of enemy air attacks that never penetrated through to San Carlos. Had the 800 CAPs been at low level as well, the options open to the enemy for getting through to their target would have been very much less. Fewer ships would have been lost and damaged in San Carlos and Falkland Sound.[91]

Subcultural divisions over the use of the Sea Harriers caused significant problems for British naval strategy in trying to overcome the biggest threat to the landings, the Argentine Air Force. The sheer distance from Argentina, poor tactics by the enemy and the superior perfomance of the Sidewinder missile[92] provided the British forces with a great deal of latitude concerning the application of an air strategy that contained considerable amounts of what Clausewitz would term 'friction'.

The inability of the Carrier Battle Group to operate organic airborne early warning aircraft (AEW) increased the importance of the layered defence strategy in which ships would be placed in layers around the most important assets, the ASW carriers. The essence of this strategy revolved around the rationale that any type of airborne threat would have to travel through various 'screens' before encountering the vital assets of the task group. A process of degradation or destruction through ship-based weaponry should occur to the threat at some stage in its journey toward the centre of the group. Type 42 destroyers were placed at the outermost fringes of the Carrier Battle Group in the most vulnerable positions. The decision to deploy the Type 42 in such a manner stemmed from the primary weapon system of these ships, the Sea Dart missile system (SAM) that was designed to engage air threats. Sea Dart could engage aerial targets at low level at around eleven miles and high-level threats at approximately 34 miles.[93] All three of the initial Type 42s, HMS *Sheffield*, HMS *Coventry* and HMS *Glasgow*, were put out of action during the campaign.

THE AMPHIBIOUS LANDINGS

The overall aim of British naval strategy crystallized in the landings phase of the operation to retake the Falklands Islands. In this phase, British naval tactics and technology appeared to be starkly wanting. Institutional belief guided the navy into planning and conducting the operation to land thousands of British troops ashore with great care, yet the application proved to be highly problematic. Belief proved to be out of phase with the operational reality: the British surface escorts (all different generations of vessels) were all highly vulnerable to Argentine aircraft. The successful insertion of the British troops cannot be attributed solely to the Royal Navy – an institution that struggled to a great extent in the confines of the landing area. A great deal of the credit must be attributed to the failure of the Argentine Air Force to attack the most relevant targets: the troop ships. Argentine Air Force strategy during the Falklands Conflict demonstrated how false perceptions about technology can critically influence strategy. The low-flying tactics of Argentine planes has been a source of puzzlement due to its detrimental effect on the pilots. First, British ships were harder targets to sink, and secondly, flying low made the aircraft vulnerable to ground fire. The extent of the horrendous and unsustainable attrition rate was revealed in *The Falklands Campaign: The Lessons*: 'On 21 May British forces shot down some 15 attacking aircraft. When attacks resumed on 23 May, 10 attacking aircraft were destroyed; on 24 May a further 18 were shot down.'[94] It was unsurprising that the Argentine Air Force should adopt such a strategy given their lack of orientation toward anti-ship operations and their awareness of the dangers posed by Sea Dart because the Argentine Navy possessed the system. Argentine pilots who had trained for years to fly over land were required in a matter of weeks (with the onset of the Falklands crisis) to adapt to long-distance missions over the much more hazardous sea environment – with enough fuel for one strike – before heading back to base. The shortage of loiter time posed by the fuel limits restricted their operations to hitting the first available target in sight which was usually one of Commodore Clapp's well-placed warships.

The amphibious landings took place on 21 May around the area of San Carlos and proved to be the most costly phase of the entire operation for surface ships. Amphibious operations fix naval forces to one specific area, which by itself imbues these types of operation with high levels of risk to ships that must defend the landing zone. Ships are unable to use the vastness of

the ocean to conceal their presence and are starkly vulnerable to air threats. Middlebrook writes about the first day of the landings:

> The carrier group out at sea had seen no action but the seven destroyers and frigates in Falkland Sound had sacrificed themselves to protect the landing ships and forces ashore. *Ardent* was sinking; *Antrim* and *Argonaut* were out of action with unexploded bombs lodged inside them; *Brilliant* and *Broadsword* had been damaged. Only *Plymouth* and *Yarmouth* were unscathed.[95]

COMAW (Commodore Amphibious Warfare) Commodore Mike Clapp and Brigadier Julian Thompson devised the entire operation. The positioning of the naval escorts in Falkland Sound attracted the attention of the Argentine Air Force, which concentrated on damaging the warships rather than the more important troop vessels. Clapp suggests that

> Inside San Carlos Water I had planned that a pilot would have less than thirty seconds to assess the situation, choose his target, place his aircraft at the right height, speed and dive angle, avoid his wingman, make the right switches and steady his aircraft for at least three seconds to aim his weapon, release it and then make his escape without collision.[96]

The naval escorts suffered a high attrition rate in the area of operations around San Carlos; however, the main aim of successfully emplacing the land forces was achieved. In addition, the escorts supported the land forces with naval gunfire support until the Argentine forces surrendered. Any naval operation near a shoreline and without a comprehensive air cover creates the conditions for potential disasters from air attack. The attacks on the landing ships *Sir Galahad* and *Sir Tristram* on 8 June provided evidence of the dangers facing surface ships under these conditions.

The naval forces that were sent to support the land forces were increasingly suffering from diminishing levels of efficiency in terms of sustenance of equipment from the landings period onward. The continuous 'steaming' from Carrier Battle Group to stations in and around the Falklands, damage from Argentine aircraft, and the constant request for naval gunfire support was creating immense equipment fatigue. Operating at the highest levels of conventional naval warfare could only be sustained for a limited period. The campaign to regain the Falklands was fought on a very narrow margin of error and a tight timescale. The

element of fortune was very high and the gulf between winning and losing was extremely narrow.

War reveals a great deal about military institutions, but most significantly it reveals the dominant beliefs of each particular service. The Falklands Conflict revealed that the Royal Navy still retained very old notions about naval warfare but that they still proved to have a value in modern warfare though with many caveats. First, the opposition must allow the navy a considerable amount of latitude. The Argentine Navy and Air Force adopted the wrong strategies for dealing with the Royal Navy: the former failed effectively to use its forces available to any great effect; the latter flew too low and failed to attack the troop ships. Secondly, despite the manifestation of friction among commands, the forces have to continue to function in a relatively coherent manner. Finally, the most important caveat of the Falklands campaign for the Royal Navy was the importance of being able to regenerate forces or in other words have sufficient assets to replace losses. A smaller navy in 1982 simply would not have been able to sustain combat at the tempo of the Falklands Conflict.

NOTES

1. HMS *Dreadnought*, the first nuclear-powered submarine in the Royal Navy was commissioned in April 1963. See D. Wettern, *The Decline of British Seapower* (London: Jane's 1982), p. 159.
2. The Royal Navy started experimenting with helicopters from the early 1950s onward. Ibid., pp. 41–2.
3. The critical difference between a nuclear-powered submarine and a diesel-electric submarine can be measured in terms of endurance. The latter must periodically surface to recharge the batteries (and reveal its position) whereas the power plant of the new technology removes the need for such risky manoeuvres: its capacity to stay underwater is determined not by the engines but by crew supplies or more simply the amount of food on the boat.
4. The range of a modern naval helicopter like the British Lynx HAS 3 is 320 nautical miles (593 km). See Lt-Col. E. Southby-Tailyour (ed.), *Jane's Amphibious Warfare Capabilities, Issue Four* (Coulsdon: Jane's, 2000), p. 555.
5. S. Woodward and P. Robinson, *One Hundred Days* (London: Fontana, 1992), p. xvii.
6. *The Falklands Campaign: The Lessons*, Cmnd 8758, para. 203, p. 15.
7. Colin Gray makes the salient point that 'Warfare on land is people – rather than technology – intensive (we equip soldiers, whereas air and naval personnel "man" equipment)'. See C. S. Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999), p. 213.
8. A. T. Mahan, *Naval Strategy* (London: Sampson Low, Marston, 1911), p. 8.
9. Commander Ian Inskip, *Ordeal By Exocet* (London: Chatham, 2002), p. 9.
10. Woodward and Robinson, *One Hundred Days*, p. 104.
11. M. Clapp and E. Southby-Tailyour, *Amphibious Assault Falklands* (London: Orion, 1997), p. 64.
12. Woodward and Robinson, *One Hundred Days*, p. 21.
13. Tom Clancy in his non-fiction exposé of the Submarine Service remarks that 'until the late 1960s, the men who had chosen to serve in the Royal Navy sub force were

regarded as pariahs and not considered to be gentlemen by the other line officers of fleet'. See T. Clancy, *Submarine: A Guided Tour Inside A Nuclear Warship* (London: HarperCollins, 1993), p. 150.
14. M. Middlebrook, *Task Force* (Harmondsworth: Penguin, 1987), p. 71.
15. Woodward and Robinson, *One Hundred Days*, p. xviii.
16. See Appendix D in *Implementing the Lessons of the Falklands Campaign* HC 345-I, Vol. 2/2 (London: HMSO, 1987), p. xcix for a list of the Royal Navy ships involved in Operation Corporate.
17. *Falklands Campaign*, Cmnd 8758, para. 222, p. 19.
18. See C. Barnett, *Engage the Enemy More Closely* (Harmondsworth: Penguin, 2000), pp. 44–8 and S. Roskill, *The Navy at War 1939–1945* (London: Collins, 1960), p. 27.
19. See *Implementing the Lessons*, HC 345-I, para. 130, p. xxxvii.
20. See D. Brown, *The Royal Navy and the Falklands War* (London: Leo Cooper), pp. 358–62 for a list of the weapons on individual ships.
21. M. Higgitt, *Through Fire and Water – HMS Ardent: The Forgotten Frigate of the Falklands* (London: Mainstream, 2001), p. 173.
22. See Woodward and Robinson, *One Hundred Days*, pp. 185–9 and also Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 81.
23. Nott, *Here Today, Gone Tomorrow* (London: Politico's, 2002), p. 305
24. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 133.
25. The first meeting between Clapp, Thompson and Woodward on 16 April in HMS *Fearless* off Ascension Island was by the accounts of the two amphibious-warfare experts, a 'bad' encounter caused by Admiral Woodward's different 'style' toward amphibious operations as well as his co-commanders while chairing the meeting. See J. Thompson, *No Picnic* (London: Cassell, 2001), pp. 17–18 and Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, pp. 71–3. Interestingly, Woodward's own account of this meeting notes how he thought that the discussion had been 'amiable enough to me' but admits that 'others have reported it differently'. See Woodward and Robinson, *One Hundred Days*, p. 90. This meeting did not engender the confidence between the in-theatre commanders separated by distance, confidence that is so essential for success in modern warfare, and undoubtedly exacerbated other tensions that would arise later in the campaign.
26. Woodward and Robinson, *One Hundred Days*, p. 92.
27. Ibid., pp. 92–3.
28. M. Rose, 'Advance Force Operations: The SAS', in L. Washington (ed.), *Ten Years On* (London: National Army Museum, 1992), p. 56.
29. See A. Finlan, 'British Special Forces and the Falklands Conflict: Twenty Years On', *Journal of Defence and Security Analysis*, 18, 4 (Winter 2002), p. 323.
30. *The Fundamentals of British Maritime Doctrine*, BR 1806, 1st edn (London: HMSO, 1995), Annex B, pp. 189–90.
31. Admiral Halsey was hospitalized before the battle of Midway. See S. E. Morison, *The Two-Ocean War* (Boston: Little, Brown, 1963), p. 149.
32. Woodward and Robinson, *One Hundred Days*, p. 343.
33. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 83.
34. It is very difficult to determine the overriding reason for which Admiral Fieldhouse chose Woodward over Reffell. Part of the problem stems from the absence of Admiral Fieldhouse's memoirs (he is literally the 'grey' man of the Falklands literature) due to his untimely death in the 1980s.
35. Woodward reveals in his memoirs that his previous encounters with Admiral Fieldhouse had often resulted in misunderstandings over his sense of humour but when the Falklands Crisis broke out, Fieldhouse 'was quite determined I should stay in command'. See Woodward and Robinson, *One Hundred Days*, pp. 58–9 and for the quotation, p. 71.
36. A. Gordon, *The Rules of the Game* (London: John Murray, 2000), p. 587.
37. Thompson, *No Picnic*, p. 16.
38. Brown, *Royal Navy and the Falklands War*, p. 90.
39. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 156.
40. Ibid., p. 288 (Name included).
41. J. Thompson, 'The Land Battle', in Washington, *Ten Years On*, p. 29.
42. Middlebrook, *Task Force*, pp. 299–300.
43. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 292.

44. Ibid., p. 292.
45. Woodward and Robinson, *One Hundred Days*, p. 323.
46. 'The 6 Swiftsure (S) class submarines were commissioned between 1973 and 1981'. See The Sixth Report from the Defence Committee, *Royal Navy Submarines,* HC 369 (London: HMSO, 1991), para. 43, p. xvii.
47. The air bridge offered by the C-130 Hercules remained open until the last day of the fighting. See Thompson, *No Picnic*, p. 33.
48. Despite the best efforts of the Royal Air Force and the Royal Navy, the airfield was never completely put out of action. One of the recommendations that emerged from the post-conflict analysis was the need for a runway-denial weapon such as the JP 233. See *Falklands Campaign*, Cmnd 8758, para. 236 (a.), p. 24.
49. Ibid., para. 103, p. 5.
50. Nott, *Here Today, Gone Tomorrow*, p. 272.
51. Middlebrook, *Task Force*, p. 97.
52. 'The standard RN torpedo is the Mark 24 Tigerfish which entered service after a development beset by problems. It has now fully replaced its predecessor, the Mark 8 torpedo, and all have been modified to standard Mod 2. Tigerfish, enjoys an excellent reputation among submariners'. See *Royal Navy Submarines*, HC 369, para. 51, p. xx. The emphasis on the 'excellent reputation' of the Mod 2 is deliberate, as the earlier model did not engender such enthusiasm.
53. Clancy, *Submarine*, p. 311.
54. G. Till, 'Naval Power' in C. McInnes and G. D. Sheffield (eds), *Warfare in the Twentieth Century* (London: Unwin Hyman, 1988), p. 106.
55. Clancy, *Submarine*, p. 25.
56. The impetus for applying nuclear power to submarine technology was pushed forward by a dynamic American naval officer called Captain Hyman Rickover from the mid-1940s onward. His rationale was that a nuclear-powered submarine would not suffer the constraints that diesel-electric boats faced (to conserve battery power in case of counter-attack) when attacking capital ships while submerged. See J. Parker, *The Silent Service: The Inside Story of the Royal Navy's Submarine Heroes* (London: Headline, 2002), pp. 289–90.
57. The expansion of the Soviet nuclear-powered submarine force by the 1960s forced Western nations like the United States and Britain to place a greater emphasis in using their nuclear-powered submarines to hunt Soviet nuclear-powered submarines. The nuclear-powered submarine programme in the USSR was 'only a fraction behind America'. Ibid., p. 292.
58. In the 1970s, the commitment to the 'troubles' in Northern Ireland led to a greater use of Royal Navy nuclear-powered submarines in intelligence gathering and working closely with Special Forces. Ibid., p. 336.
59. The development of powerful anti-ship missiles such as the Sub-Harpoon that was operational within the Submarine service 'before the [Falklands] campaign', as well as the expansion of the Soviet surface fleet, generated renewed interest in anti-ship operations. See *Implementing the Lessons,* HC 345-I, para. 166, p. xlvi (Explanation added).
60. Woodward and Robinson, *One Hundred Days*, p. 124.
61. Brown, *Royal Navy and the Falklands War*, pp. 102–3.
62. See Inskip, *Ordeal By Exocet*, p. 48.
63. Ibid., p. 51.
64. Parker, *Silent Service*, p. 346. On an interesting note, it has been re-emphasised recently that the rules of engagement concerning the Argentine aircraft carrier permitted British submarines to attack it inside or outside the exclusion zone. See Nott, *Here Today, Gone Tomorrow*, p. 308.
65. The Third Report from the Foreign Affairs Committee, *Events Surrounding the Weekend of 1–2 May 1982*, HC 11 (London: HMSO, 1985), paras 2.8–9, p. xii. This report provides a comprehensive account of the sinking of the *Belgrano.*
66. Brown, *Royal Navy and the Falklands War*, p. 371.
67. Ibid., p. 371.
68. Ibid., p. 134.
69. Woodward and Robinson, *One Hundred Days*, p. 154.
70. Nott, *Here Today, Gone Tomorrow*, p. 308.
71. Brown, *Royal Navy and the Falklands War*, p. 134.

72. The Mark 8 torpedo was first produced in 1928. See Parker, *Silent Service*, p. 353.
73. See Nott, *Here Today, Gone Tomorrow*, p. 309.
74. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 319. John Nott also mentions that during this redeployment of nuclear-powered submarines off the Argentine coast, one of them found the aircraft carrier toward the end of the conflict but the Royal Navy was denied permission to sink it due to the unfavourable political consequences it would have generated. See Nott, *Here Today, Gone Tomorrow*, pp. 294–5.
75. Woodward and Robinson, *One Hundred Days*, p. 26.
76. Ibid., p. 27.
77. Ibid., p. 93.
78. Brown, *Royal Navy and the Falklands War*, p. 83.
79. Woodward and Robinson, *One Hundred Days*, p. 93.
80. Ibid., p. 93.
81. Middlebrook, *Task Force*, pp. 101–2.
82. Brown, *Royal Navy and the Falklands War*, p. 82.
83. A recent memoir from a former naval officer of the Task Force has raised questions as to the utility of making the British Type 42s stand out so with these 'black stripes' by suggesting that they also offered the attacking Argentine aircraft an excellent aiming mark. See Inskip, *Ordeal By Exocet*, pp. 30–1.
84. *Falklands Campaign*, Cmnd 8758, para. 109, p. 7.
85. Woodward and Robinson, *One Hundred Days*, p. xvi.
86. J. Thompson, 'Air Power – the Second World War vs. the Falklands', *JRUSI*, 142, 1 (February 1997), p. vii.
87. S. Ward, *Sea Harrier Over the Falklands* (London: Cassell, 2001), p. 356.
88. The Sea Harrier became operational in June 1979. See Wettern, *Decline of British Seapower*, p. 381.
89. 'One of the major problems facing us, as aviators commanding aeroplanes, was fatigue. Gordie Batt, E-J and Alan Curtis were all suffering from varying levels of fatigue when they died, and in Gordie's case tiredness could have been a definite contributory factor to his disorientation. And the rate of day flying and alerts had now reached a peak. The aircrew were shattered, as was everyone else in the air department.' See Ward, *Sea Harrier Over the Falklands*, p. 283.
90. Woodward and Robinson, *One Hundred Days*, p. 175.
91. Ward, *Sea Harrier Over the Falklands*, p. 356 (Explanation added).
92. The Sidewinder 9L missile obtained 16 kills during the Falklands Conflict. See *Implementing the Lessons*, HC 345-I, para. 242, p. lxvi.
93. Brown, *The Royal Navy and the Falklands War*, p. 362.
94. *Falklands Campaign*, Cmnd 8758, para. 117, p. 9.
95. Middlebrook, *Task Force*, p. 226.
96. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, p. 180.

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Culture, Strategy and the Gulf War

By the start of the 1990s, a great deal of attention had been focused on the state of British naval policy and its impact on the viability of existing strategies. Much of the debate stemmed from the 'wearing off' of the post-Falklands euphoria and a recognition that structural problems in the force composition of the Royal Navy had not been fundamentally addressed after 1982, merely papered over. Consequently the service as a whole was beginning to exhibit signs of overstretch and fatigue from the increasing multitude of tasks placed on them by the government. Adding to these existing concerns, the unexpected end of the Cold War now presented defence planners with a new set of strategic circumstances. For the first time in four decades, policy makers were offered an uncluttered strategic vista without the traditional reference points (the Soviet Union and the continental commitment) which were appearing to fade literally before their eyes, and somehow they had to construct a defence posture that would be appropriate to this new environment. Furthermore, at the height of the defence-policy reassessment process, a new element would impose itself on British strategic thinking: the Gulf War of 1991.

BRITISH NAVAL POLICY AT THE END OF THE 1980s

In 1988, the Defence Committee produced one of the most important examinations of the state of British naval policy since the 1981 defence review entitled *The Future Size and Role of the Royal Navy's Surface Fleet*.[1] In the introduction to the paper, the committee asserted:

> **In 1981 the Government's White Paper *The United Kingdom Defence Programme: The Way Forward* set out a controversial approach to the future of British defence policy and capability. The campaign to recover the Falkland Islands in 1982 led to a substantial reappraisal of that policy. The Royal Navy's surface fleet was the capability most adversely affected by the Government's proposals in 1981; and that surface fleet figured most prominently in the lessons taught by the experience of the Falklands conflict the following year**.
> **Since then, the future size and role of the Royal Navy's surface fleet have been matters of lively debate**. Particular attention has focused on the Navy's destroyers and frigates, and whether the present and planned numbers can meet the demands placed upon them by British defence commitments. Between 1984/85 and 1986/87, the defence budget has been under increasing pressure with cuts in expenditure in real terms. In 1988/89, with the benefit of extra funding provided in the last Public Expenditure Survey, the provision for defence will be broadly level in real terms until 1990/91. Even so, it will not be enough to meet all the demands of the defence programme.[2]

The paper reflected a growing realization that the aftermath of the Falklands Conflict had not fundamentally changed the medium- to long-term direction of British naval policy set out in the 1981 defence review. Even more worrying, it seemed that certain unwelcome aspects of the defence review, notably a commitment to a reduced number of frigates and destroyers (50 in total), would actually drop well below those levels in the future. The source of these apparent contradictions stemmed from a trend in the Royal Navy that had been evident long before the Falklands Conflict: the high age factor in specific parts of the surface fleet. This problem was most apparent concerning the destroyers and frigates. In 1988, the Royal Navy possessed 50 such warships: 1 Type 82 destroyer, 12 Type 42 destroyers, 11 Type 22 Frigates (with 3 additional ships to be built), 6 Type 21 frigates, 19 Leander frigates and 1 Rothesay (Type 12) frigate.[3] Given that the average operational lifespan of these ships was 20–25 years,[4] it meant that 12 ships automatically fell into this category, mainly in the Leander class, with two other slightly younger ships (HMS *Apollo* and HMS *Diomede*) due for disposal in 1988 as well.[5] In addition, the remaining five ships of the class and the Type 82 destroyer would exhaust their operational limits just five years later.[6] In sum, the Royal Navy was facing a demographic 'warship'

timebomb that would generate a significant whiplash effect on operational duties and commitments in the next decade.

The surface fleet, in particular the destroyers and frigates, represents one of the foundation stones of the Royal Navy's institutional culture. These so-called minor warships actually form the operational bedrock of the service. The deployability of the capital ships (the ASW carriers) is completely dependent on the numbers of escorts available for duties within the service. No capital vessel can prudently go to sea in a hostile environment without accompanying destroyers and frigates to provide anti-aircraft/missile and anti-submarine cover. In terms of the officer corps, they also provide critical command experience for medium-ranking officers (generally 'Commander' rank and above) to move upward within the overall hierarchy. Fewer ships means fewer commands and an unwelcome loss of operational knowledge that would provoke detrimental effects in times of conflict. Furthermore, the cultural links with the past would also be under threat as history had demonstrated that successful 'Admirals' such as Nelson had also been successful commanders of minor warships.[7] Correlli Barnett notes of the career path of one of the most victorious commanders of World War II, Admiral Sir Andrew Cunningham, that 'long service in destroyers rather than battleships, the more usual and fashionable avenue to flag rank, had fostered and formed his special qualities as a leader'.[8] The reductions in the force levels of these warships was a most pressing problem for the service in both structural and cultural terms, and the manifestation of this issue at the level of the Defence Committee reflected the urgency to have this problem resolved.

Their analysis of the current state of affairs suggested that a gap had emerged between the government's declaratory policy concerning the force levels in the destroyers and frigates categories of warships and the actual operational numbers. On this point, the language in *The Future Size and Role of the Royal Navy's Surface Fleet* was blunt:

> **Maintaining a fleet of 'about 50' frigates and destroyers remains the Government's declared aim. However, since the phrase was first used, there has been growing scepticism as to whether the Government's understanding of 'about 50' is shared by anyone else. Moreover, there has been uncertainty about definitions. How many destroyers and frigates does the Royal Navy have, and how many are operational?**[9]

The nub of the issue revolved around how many ships were available for operations at any one time. This in itself was a common problem for all military organizations operating sophisticated equipment such as ships, tanks or combat aircraft. At any particular moment, a proportion of forces will be either unserviceable, in repair or coming out of refit. In the case of the destroyers and frigates, the report highlighted specific statistics concerning the readiness of these warships between 1980 and 1988. In 1980, 49 warships had been operational with a further 18 either in refit or standby. In 1988, the figure was 45 vessels ready for duties with 7 unavailable for immediate operations.[10] The report also cast doubt on the veracity of the government's statistics by quoting the British Maritime League that claimed the official declaration of 47 ships ready for operations in March 1988 should actually have been just 28.[11] Whichever figure is taken, these statistics suggest that in the best case scenarios approximately 10–25 per cent of the destroyers and frigates would be unavailable at any one time and in the worst case over 50 per cent. The logical deduction from this argument was that reductions in numbers would inevitably lead to fewer ships available for duties. However, one mitigating factor to these gloomy predictions stemmed from the fact that new ships entering into service tend to be (in theory at least) less prone to mechanical problems and do not require as much maintenance.

The obvious solutions to these gaps in numbers centred on either extending the lives of the older ships (although given the high age factor in the Leander class, this option was limited) or simply ordering more ships. It was the cost of buying new ships and its implications for the defence budget as a whole that was at the heart of the debate over the size of the future fleet of the Royal Navy. One of the biggest problems facing British defence spending in the 1980s was the spiralling cost of new equipment due to the phenomenon of defence inflation. According to John Baylis,

> With the cost growth, especially in equipment, considerably outstripping the general level of inflation, even annual 3 per cent increases in real terms in the defence budget were not sufficient to allow the government even to implement the reduced defence plans of its predecessors. There was also the associated problem that more and more of the overall defence budget was being taken up with equipment purchases, with all of the obvious implications for other areas of defence.[12]

A typical example can be illustrated by the ships that replaced the four warships lost in the Falklands Conflict. Three (later four) of the warships were the new Type 22 Batch III variety. In terms of size, these ships appear little different from the Batch II with the exception of an extra 100 tons in weight, 4,900 tons instead of 4,800.[13] However, each ship possessed three additional (as well as expensive) primary weapons systems, a 4.5-inch gun, the American Harpoon anti-ship missile system with a range of 70 miles[14] and the Dutch Goalkeeper close-in weapons system that could fire 4,200 rounds per minute at a range of 1.5 km.[15] The qualitative increases in firepower were matched by qualitative increases in the cost of the platform substantially above Hartley's original baseline statistic that a standard Type 22 frigate is four times the cost of a Leander frigate and the Sea Wolf missile is just over three times the cost of a Sea Cat missile.[16] Taken by themselves, the cost of buying new ships is expensive but, put in the contest of the overall naval budget and the other financial demands of the service, then these figures appeared prohibitive. A report by Malcolm Chalmers graphically illustrates the cost equation:

> We estimate that around £7½ billion at 1986/7 prices would be required over a decade in order to buy new frigates, frigate-based helicopters, support vessels for frigates, and missiles and other equipment. This is roughly equivalent to the amount budgeted over this period for Trident (£7 billion). It is probably rather greater than the funds required to fund the European Fighter Aircraft (£6 billion), particularly since this programme appears to have been somewhat delayed. It is substantially more than the £4 billion which, we estimate, the Navy will be spending on submarines (excluding Trident).[17]

In other words, the Navy's slice of the defence budget was already taken up by major equipment programmes, and yet a solution to the material crisis concerning minor warships had to be addressed with either an injection of more money to fund purchases of the new Type 23 class of frigate or an acceptance that the figure of 50 ships was not sustainable and needed to be substantially lowered.

One alternative solution to break the diminishing returns dilemma concerning new warship building costs and its detrimental effect on maintaining force levels was to opt for a cheaper sort of vessel such as a 'second-rate escort or a corvette'.[18] This was an old idea that came to prominence during World War

II when, once again, due to a desperate set of circumstances, the Royal Navy was forced to rely heavily on the 925-ton Flower class sloops (that were subsequently redesignated as corvettes) in the Battle of the Atlantic.[19] On paper and in practice, these cheaper alternatives suffered all the disadvantages of economy from speed (not as fast as a U-Boat on the surface) to handling qualities (very poor during the rough winter months)[20] but nevertheless this stopgap ship fulfilled the requirements demanded of it. Interestingly, this solution was rejected by the Defence Committee due to the potentially damaging long-term structural (and cultural) effects on the service as a whole:

> These arguments apart, the range of tasks which destroyers and frigates undertake in peacetime, and would have to undertake in wartime, is an argument for the high degree of flexibility and interchangeability which the more capable ships provide. The smaller the force, the stronger this argument becomes. **We find yet more compelling the more cynical argument that once a cheaper alternative to a fully capable frigate began to be ordered, such ships would not be ordered in greater numbers, but would take the place of frigates, changing the nature and capability of the whole Fleet. We have looked carefully at the case which has been put to us, but we do not think there is an alternative to addressing fairly and squarely the problem of Type 23 orders and, later, the question of the Type 42 replacement.**[21]

Despite the difficulties posed by rising costs and lower numbers of ships, the Defence Committee was clearly articulating preferences that held a deep cultural resonance within the Royal Navy, that high quality and less was preferable to low quality and more. The latter category was only acceptable in wartime (when national circumstances dictated) when the vast bulk of the fleet was made up of 'Hostilities Only' ratings[22] and the Royal Naval Volunteer Reserve (RNVR) provided 48,000 officers.[23] The notion that the acceptance of second-rate escorts would have provoked such radical change as propounded in the Defence Committee's findings is debatable. More ships would have offered a great deal of opportunities and experience of command for junior officers that would have been of great benefit to the officer corps as a whole. However, there was no guarantee that, having accepted a second-rate escort in these financially stringent times, the Royal Navy would be able to persuade future administrations to fund first-rate ships when the latter category could fulfil that function adequately. It was also a question of image; the Royal Navy had

always striven for at least the appearance of a first-class service yet second-rate (class) ships would have significantly undermined that corporate picture. It would also provoke significant institutional contradictions – how could a service with such a glorious history hope to recreate such deeds with economy-class platforms?

By the end of the 1980s, another very dangerous contradiction had emerged in naval policy that held the same level of significance as the rapidly diminishing numbers of ships, that of falling manpower. The causes were many but the heart of the problem was traced back to the 1981 defence review:

> The Government's plans set out in 1981 in *The Way Forward* included a reduction in naval manpower of 8–10,000 by 1986. There has been a reduction to date of about 8,700.
>
> However, **this reduction has been achieved without the corresponding cuts in commitments which were envisaged in Cmnd 8288**. These included the sale of one INVINCIBLE class aircraft-carrier, the paying off of the manpower-intensive assault ships, and the creation of a stand-by squadron. This latter step would have set a significantly reduced manning requirement for eight ships, in addition to those already undergoing refit or conversion. It would at the same time have been possible to relegate to this group ships which were the most demanding in manpower terms.[24]

The consequences of this imbalance between resources and commitments (commonly called 'overstretch' in the Ministry of Defence) were manifested in several ways, most notably in a higher ship-to-shore ratio of 53:47 rather than the pre-1981 figure of 40:60.[25] Admittedly, the service itself had recommended a target figure of 60:40 during the 1981 defence review but this figure had been subsequently altered to 50:50.[26] The major problem stemming from this apparently innocuous ratio was that significant proportions of the large numbers of personnel leaving the service cited the 'separation factor' from families as a major cause for quitting the service or requesting premature voluntary release (PVR).[27] A comparison of the statistics showing the amount of naval manpower leaving the service from 1982 to 1987 is revealing: more than 26,000 people in total left the service in this period with 4,085 in 1982–1983 rising to 6,295 in 1986–1987.[28] According to Commander Michael Chichester, the Royal Navy's overall manpower strength fell from 66,400 in 1981 to 58,300 by 1988.[29] Taking the higher figure, it is possible to see that nearly 40 per cent of the service personnel decided to leave in a space of just five years, representing an enormous loss of experience. It is clear

that recruiting levels managed to make up for a significant proportion of the losses but even in 1988, target figures for ratings (both male and female) were down in total by about 20 per cent.[30] One of the most worrying aspects of these losses was that the bulk of the personnel leaving were not officers, or in other words were ratings and non-commissioned officers, nearly 80 per cent in 1986–1987 (the numbers rose from 3,103 in 1982–1983 to 4,803 in 1986–1987 whereas the numbers of officers leaving actually declined).[31] These figures suggest that, toward the end of the decade, on an annual basis around 10 per cent of the service were leaving and that a gulf had developed between the career demands that the Royal Navy placed on officers and those on the men that they commanded. One source of the difference was that the careers tracks of officers and ratings/non-commissioned officers meant that the former spent less time at sea, which reduced considerably as they moved up the ladder of seniority, to the extent that the Defence Committee stated that 'officers do not have a career pattern that allows quantification of a ship:shore ratio'.[32] The Royal Navy found itself between the proverbial rock and the hard place with the obvious solutions, cuts in commitments (in the hands of the government as well as enmeshed in the Cold War) or increased recruitment (that society was not meeting), completely beyond their grasp in this period.

NAVAL STRATEGY AFTER THE FALKLANDS CONFLICT

One of the surprising aspects of the Falklands Conflict was that unlike other major military victories (and it was arguably the most important for the British armed forces since World War II), in strategic terms, very little had changed. At the local level, success in the South Atlantic merely represented a return to the status quo, or in other words, after having forcibly ejected the Argentine combat units from the islands, Britain and Argentina remained in dispute about the sovereignty of the islands. For naval policy, defeating the enemy resulted in a larger rather than a diminished commitment to the Falkland Islands. At the national level, apart from immense public euphoria and new-found standing in world affairs, nothing in terms of grand strategy had been dramatically altered. The enemy remained the Soviet Union and the Cold War showed no signs of thawing in the immediate aftermath of 1982. For the Royal Navy, its major peacetime commitments (involving destroyers and frigates) after the South

Atlantic campaign developed into a significant drain on available resources and have been described by the Defence Committee by the late 1980s as:

- the provision of one destroyer or frigate to serve with the NATO Standing Naval Force North Atlantic (STANAVFORLANT);
- participation in the Naval on-call Force, Mediterranean (NAVOCFORMED) when activated;
- participation in the Standing Naval Force, Channel (STANAVFORCHAN);
- the maintenance of a naval presence in the South Atlantic;
- the protection of offshore assets;
- the Armilla patrol;
- the provision of a West Indies Guardship;
- patrolling in Hong Kong waters.[33]

An accurate estimation of the proportions of the fleet engaged in these activities is problematic, particularly in view of the fact that the numbers of ships involved in protecting the Falklands was still 'classified'[34] information in 1988, though the Defence Committee does reveal that 'for each frigate or destroyer allocated to this role, another is on passage either to or from the area'.[35] With regard to the Armilla Patrol in the Persian Gulf, created in 1980 to protect British merchant shipping from the dangers posed by the Iran–Iraq war, 12 ships were dedicated to this task in 1988 (though not all in the Persian Gulf at the same time) that included frigates or destroyers and Hunt class mine-countermeasure vessels.[36] Nevertheless, all these commitments posed a serious challenge to the Royal Navy and the evidence suggests that toward the end of the decade, the service was struggling to meet these geographically diverse demands. This important point was underscored by the Defence Committee:

> We have been told that the fleet is being run 'harder than it has ever before been required to run in peacetime', and that 'despite major efforts to increase percentage ship availability, the number of ship weeks available to the Commander in Chief Fleet for operational deployments and for operational exercises . . . is not enough to meet the tasks with which he is presented'. **This reflects the clear view we have formed during our inquiry. We are concerned at the consequent overstretch and in particular at the implications for morale and retention of personnel.**[37]

The use of the term 'overstretch' signified that the Royal Navy had reached a crisis point in which the peacetime requirements of the state had outstripped the resources of the service and this factor was generating immense pressure that would manifest itself in overworked personnel and equipment. Over a period of time, the former would leave and the latter would simply break down.

By the end of the 1980s, the Royal Navy's wartime roles were also equally demanding but unlike their peacetime duties, tended to be concentrated in either the North Atlantic or the European continent rather than far-flung reaches of the globe. Setting aside the long-term commitment to Britain's nuclear forces with the Polaris and Trident submarines, their conventional roles, that remained unchanged until the *Options for Change* defence white paper of 1990, encompassed four major areas:

- the interception and containment of Soviet forces in the Norwegian Sea;
- direct defence of reinforcement, resupply and economic shipping;
- anti-submarine defence of the NATO Striking Fleet Atlantic; and
- protection and deployment of the combined UK/Netherlands Amphibious force to reinforce the Northern Flank of NATO.[38]

The first task of tackling the Soviet forces in the Norwegian Sea was an enormous test of endurance and capability for a declining medium-sized navy that had struggled at times with a handful of Exocet anti-ship missiles in the South Atlantic and would in all likelihood be overwhelmed by hundreds of Soviet anti-ship missiles fired from long-range naval aviation. Much of this new thinking about the role of the Royal Navy, aptly called 'Forward Defence', was derived from the American 'Maritime Strategy' concept that came to fruition in the latter part of the decade. Tangredi highlights the major differences between the old and the new NATO naval strategies:

> Prior to *The Maritime Strategy*, NATO gave navies the primary mission of protecting the SLOCs [Sea Lines of Communications] between Europe and North America. American and Canadian land and air forces had to be transported across the Atlantic to reinforce the NATO land forces already stationed in the path of any potential attack by the Warsaw Pact countries. Keeping these SLOCs open would be a challenge because the Soviet Union had a navy

> consisting largely of attack submarines and long-range bombers, forces that could not necessarily command the sea but were optimised for sea denial and interdiction. NATO would concentrate on keeping Soviet naval forces bottled up – essentially blockaded – north of the Greenland–Iceland–United Kingdom gap, which is the northern access to the main body of the Atlantic Ocean. Soviet submarines, bombers, or surface ships that penetrated south of the gap would be hunted down and destroyed before they could interdict the convoys supplying the NATO forces. This approach would be similar to that adopted to fight German U-boats in the Second World War.
>
> But *The Maritime Strategy* called for the US Navy to conduct attacks on the Soviet Navy in Russian home waters in the event of war.[39]

The Royal Navy's role in this forward strategy was simply to 'hold the ring'[40] until reinforced by the extremely powerful US carrier battle groups but if the peacetime tasks were beginning to fray the service at the edges then the implications of this role in the event of war were far worse. This so-called 'ring' pitched the Royal Navy against the Soviet Union's most powerful naval command, the Northern Fleet, whose strength was estimated (just a few years later in 1990) to be composed of 60 major surface ships and 110 nuclear-powered submarines.[41] Put in context, the Royal Navy in terms of submarines alone possessed just 17 SSNs and 10 SSKs (diesel-electric)[42] to contain just one of the four Soviet fleets. Certainly, through a cultural filter, the idea of taking the fight toward the enemy, even a behemoth like the Soviet Navy, would have resonated well within the Royal Navy but the sheer scale of the task raised doubts about its viability. On this point, the Defence Committee expressed concerns about the envisaged forward posture:

> **This strategy raises some questions. At best, the forward deployment of RN ships in a *period of tension* could only monitor transiting Soviet submarines. It could not prevent them leaving the Norwegian Sea for the Atlantic, deal with those already operating there, or intercept or monitor those redeploying from elsewhere in the world. In a period of tension, forward deployment could appear provocative**; it seems improbable that a British government would at such a stage wish to initiate actual combat by using force to achieve its aim of containing the Soviet submarine fleet. Even the monitoring of transiting Soviet submarines would not be an

> easy task: one naval commentator, himself a former submariner, points out that the new quieter Soviet submarines would present a particular problem, and that 'hunting for submarines is a dangerous and uneconomic use of force'.[43]

The bottom line was that by adopting this US-derived strategy the Royal Navy would stand into danger or, in naval parlance, be placed 'up threat', in a forward position ahead of the expected US carrier battle groups. Inevitably, for a period of time, it would experience the full attention of the powerful Soviet naval forces and the critical question would be what sort of composition (if any) would survive to link up with the arriving US naval forces? Another dimension to this strategy was the connection with the fourth task of the Royal Navy, that of reinforcing NATO's Northern Flank in Norway. On the surface, both tasks appear complementary, given the close geographical proximity to each other. However, significant losses in the forward defence would seriously jeopardize the ability to sustain this role and the light forces (mainly Royal Marines) would face great difficulties in resisting a major Soviet land offensive if cut off from their sea-based logistical support.

The second major wartime task of the Royal Navy also drew heavily on the resources of the service as a whole, particularly the anti-submarine capabilities of the minor warships or escorts. The concept of transatlantic resupply was tied closely to NATO's overall strategy called 'flexible response' to defend Western Europe from the numerical superiority of the Warsaw Pact forces in the event of conflict. One observer notes of the origins and purpose of this strategy:

> On 9 May 1967 NATO officially adopted the strategy of flexible response. This required the Alliance to develop the capability of responding to any Warsaw Pact military action with an appropriate level and kind of response. Threats of less than all-out attack were to be deterred by the capacity to offer an effective, but less than all-out response. If the Alliance failed to achieve its objectives at any particular level of response, then the strategy was designed to provide NATO with the option to escalate, if need be, through the use of nuclear weapons.[44]

Flexible response offered NATO a ladder of escalation and (it was hoped) a firebreak between the conventional and nuclear levels. The key to the strategy, though, revolved around the ability to fight at the conventional level for a period of time. The

transatlantic resupply was seen as critical to the conventional defence of Europe and it was envisaged that in the first 30 days more than 1,000 dedicated sailings (in addition to normal trade) of merchant ships would be required.[45] The problem facing the NATO navies would be the significant numbers of Soviet submarines in the North Atlantic armed with anti-ship missiles and torpedoes whose purpose would revolve around blocking the transatlantic sea lanes by sinking as many ships as possible. This wartime role also had a degree of overlap with the third task of the Royal Navy to provide anti-submarine defence of NATO's Striking Fleet Atlantic in terms of functions and location, but the critical question was whether the Royal Navy would be somewhat thin on the ground at this stage. Doubts had been raised about the viability of convoy tactics in the missile age[46] but these merchant ships would have to be escorted in some manner safely across the thousands of miles of ocean that separated the North American continent from Europe. Two options stood out: either defend sea lanes of communications and specific routes or defend the ships themselves but such choices would be made on the outbreak of hostilities when actual, rather than theoretical, analysis of the immediate threat could be evaluated.[47]

All of these wartime tasks demanded high levels of manpower and equipment availability from the Royal Navy that was already struggling in both respects to fulfil the apparently less demanding peacetime roles. Undoubtedly in the event of hostilities, some forces would be ready for specific roles, but the problems with declining numbers concerning destroyers and frigates in combination with their geographical dispersion in non-NATO areas like the Persian Gulf would have made the transition to a war footing quite difficult. Minor warships were the vital component of each of the four tasks, yet it was this area of the Royal Navy's force structure that was manifesting the most significant short- to medium-term problems. Accepting the forward-defence strategy was a very big gamble for the Royal Navy. However, it made great sense in view of the domestic political and alliance-wide benefits of being so closely tied to the most powerful navy in the world, and, institutionally, taking the fight to the enemy was a popular belief within the service. Yet, this was an ethnocentric strategy: designed by the US Navy to exploit American naval strengths. As such, it encompassed new capabilities that were a generation ahead of those of their European counterparts.

From a technological perspective, the strategy demanded levels of capability far beyond that which the Royal Navy possessed.

American naval aircraft, for instance, like the F-14 Tomcat and its Phoenix missile system could detect enemy aircraft at 200 nautical miles and destroy them at half that distance.[48] Warships were qualitatively and quantitatively in a different league to that of their British equivalents. The watchword of the US Navy in the 1980s was the 600-ship navy with 15 carrier battle groups. In terms of physical size, American aircraft carriers were approximately five times bigger than British ASW carriers (16,000–20,000 tons) and carried about ten times the number of strike aircraft. Minor warships (if they can be called that) like the Aegis guided-missile cruisers with their powerful SPY-1A radars were far superior to the rapidly ageing Type 42 destroyer.[49] These warships could 'manage' the air dimension of naval warfare by themselves, neutralize multiple airborne threats from aircraft to missiles, attack threatening submarines with torpedoes and engage land targets at ranges of 1,000 nautical miles with Tomahawk land-attack missiles. The Maritime Strategy was an explicitly offensive strategy designed with these state-of-the-art technologies in mind to allow naval forces to engage in warfare on the Soviet Union's territory. In respect to the Royal Navy, the incorporation of the service within this latter twentieth-century strategy was highly problematic. The service was trying to compete in a much higher category of warfare – one in which the institution in years gone by had comfortably set the pace – but now the self-image and the physical shape were at complete odds with each other. The Royal Navy could jog to the start line (the prospective war with the USSR) but it was debatable as to what condition it would be in if it made it to the finish line.

THE END OF THE COLD WAR

The fall of the Berlin Wall in 1989 and the dissolution of the Soviet Union two years later irrevocably changed the nature of international society in a remarkably short space of time. The disintegration of former enemies raised extremely awkward questions about the relevance of virtually every aspect of defence from weapons systems such as the Trident submarine-launched ballistic missile system to strategies such as deterrence. Ronnie Lipschutz sums up the broader consequences of the end of the Cold War as a whole:

> Some years ago, according to a now almost-apocryphal story, a U.S. diplomat was approached by a Soviet colleague

> and told, *sotto voce*, 'We are about to do a terrible thing to you. We are going to deprive you of an enemy.' At the time, the story had a certain appealing charm to it: The Soviet Union was the primary threat to, and enemy of, the United States, as forty years of Cold War had definitively established. Without the Soviet Union as an enemy, a new era in international cooperation could begin. Financial resources allocated to the defense sector by the two superpowers and their allies could now be redirected to social welfare, basic infrastructure, technological innovation, and environmental protection. The security dilemma that had resulted in the manufacture of more than 50,000 nuclear weapons, the deployment of 300,000 American troops and a comparable number of Soviet soldiers in Europe, and the annual global expenditure of close to $1 trillion could be eliminated.[50]

For Britain, the outlook toward this momentous change in Eastern Europe was the same as for the United States, and the government moved relatively quickly to seize the opportunity to draw back on defence spending and commitments to reap the rewards of the potential 'peace dividend'. In 1990, the Defence Secretary Tom King announced the wider thinking of the government toward the new strategic environment in a defence white paper entitled, *Options for Change*. This defence review called for a radical reduction in the size of the British armed forces but, unlike the 1981 defence review, the major target for the cuts was the British Army rather than the Royal Navy. Under the auspices of this paper, the British Army would lose 40,000 soldiers (from 160,000 to 120,000), the Royal Air Force would shrink by 14,000 to 75,000 personnel and the Royal Navy would be reduced by just 3,000 to a future level of 60,000 sailors/Royal Marines.[51] The loss of the major threat from the Warsaw Pact on the European continent meant that the manpower-intensive infantry units would bear the brunt of the losses with many regiments being forced to amalgamate or lose a battalion.

From a naval perspective, the most important official publication concerning the implications of the defence white paper for the Senior Service was a report by the Defence Committee in 1991.[52] The general tone of the paper echoed concerns about the size of the Royal Navy's fleet just three years previously and maintained a noticeably 'Cold War' stance toward the future and the Soviet Union in general. This is particularly illustrated in its description of the new strategic environment:

> NATO's London Declaration of 6 July 1990 recognised that the basic strategy of forward defence would have to be rethought, and 'a new allied military strategy moving away from "forward defence", where appropriate, towards a reduced forward presence'. It is far from clear how naval thinking will be fitted into this new strategy. Soviet naval forces continue to be modernised, if reduced in quantity: 'smaller but of higher quality'. There are no obvious signs of changes in their concept of operations, or their priorities. **The political situation may have changed: the strategic environment poses the same challenge**. Decisions on the size and equipment of the Royal Navy, as of the other Armed Services, must depend on detailed analysis of the character of future British interests, the threats to those interests, the means of safeguarding them and the part to be played by military forces, alone or with allies. Current circumstances make such an analysis particularly difficult. For present purposes we have to be content with recognition that there are continuing potential threats to our national interests. Of these, that posed by the massive armed forces of the Soviet Union remains the most significant, the present engagement of Allied forces in the Gulf notwithstanding. An understanding of Soviet naval strength, and its likely development over the next decade or so is therefore crucial to an assessment of the Government's proposals for the future size of the Royal Navy.[53]

In other words, defence planning must continue to view the Soviet Union as the enemy until a new threat emerged and replace it as the benchmark around which the size of Britain's own forces could be measured. From a purely strategic perspective there was much logic to this argument but, in the political and financial context of the end of the Cold War, such thoughts were sailing against the overall tide of opinion. This pessimistic tendency to highlight the worst-case scenario in strategic-defence thinking is not untypical of conservative strategists and has been recently described by one observer as '**a dark side to the strategic imagination** that picks up intimations of disorder at times of stability, that senses the fragility of human institutions even while striving to reinforce them, that cannot stop thinking of war while promoting peace'.[54] Clearly the Defence Committee were finding it difficult to readjust their thinking to the new strategic environment and within a few years it would become clear that the threat from the naval forces of the former Soviet Union had diminished on a rapid and dramatic scale. A

significant degree of atrophy would start to characterize significant parts of a fleet that possessed '779 major warships and submarines in the early 1980s'.[55]

The *Options for Change* defence white paper offered the British government an opportunity to resolve many of the structural weaknesses that had beset the Royal Navy in the mid- to late 1980s by lowering the numbers of major units within each category of warship. With regard to one of the biggest problem areas of the fleet, the declining numbers of destroyers and frigates, the Defence Committee notes of the proposed solution:

> The Secretary of State said in his 25 July Options for Change statement –
> 'I would envisage a future destroyer/frigate force of about 40 ships. The reduction would be achieved by paying off older, less-capable ships.'
> The accompanying factsheet referred to a change from 48 destroyers/frigates to 'perhaps around 40 destroyers/frigates'. The previous commitment to 'around 50', confirmed in evidence to us from the Secretary of State in May 1990, has been understood to cover the current surface fleet of 48. The Deputy Under Secretary of State (Policy) at MoD told us candidly that –
> 'I think around 40 means a range around 40, which could be 35 to 45.'
> Asked in March 1988 about his interpretation of suggestions already current at that time that a fleet of around 40 was envisaged, the same official, occupying a different post, told us –
> 'About 40 seems to me to be a number less than 44, something like 43, 42, 41.'
> We concluded at that time that –
> 'it appears that the commitment to maintain a fleet of "about 50" escorts could, in practice, mean as few as 45'.
> **We consider, however, that the proposal for a destroyer/frigate fleet of 'about 40' would not be met if there were as few as 35, and that if a fleet of fewer than 37 is envisaged, that fact should now be made explicit.**[56]

For the Defence Committee, it appeared that the only consistent trend in British defence policy concerning destroyers and frigates was that the force levels continued to decline while at the same time the government consistently upheld that it was committed to maintaining specific numbers. Words and deeds clearly did not

go together regarding this very important part of the Royal Navy, and the use of extremely vague language like 'around 40' suggested that numbers would be allowed to fall even further. The suspicion that emerges from the language of the paper suggests that the government had failed to take into account that falling numbers of minor warships would inevitably result in the abandonment of certain wartime tasks, such as the 'escort intensive' transatlantic resupply.[57] Furthermore, the Defence Committee raises serious questions about the methodology that the government was using to determine the numbers of ships that the Royal Navy should possess:

> **It must be right to 'size' the Royal Navy in relation to its foreseeable wartime tasks, and then allocate peacetime tasks with whatever force levels result. What cannot be right is to make an arbitrary reduction in the size of the Royal Navy surface fleet and then allocate wartime tasks to that fleet. Even worse would be for the Treasury to dictate the size of the surface fleet in the course of public expenditure negotiations.**[58]

These statements reveal the underlying fears of the Defence Committee that the government was placing the strategic cart before the operational horse and that additionally, behind the wings, there was a real danger that the all-powerful Treasury could be calling the shots in relation to the size of the fleet with deleterious consequences for Britain's naval posture and overall policy. These themes also echo an earlier worry in the Sixth Report in 1988 that ministers had allowed naval policy to drift in relation to ship numbers and that

> **Although the number of destroyers and frigates in the Fleet just meets what was intended in Cmnd 8288, it has yet to be demonstrated that this will remain the case in the mid-to-late 1990s. It appears to us that much of the philosophy underlying that paper has been quietly discarded, without being replaced by a Ministerially approved coherent long-term plan for the Navy.**[59]

Together, these major concerns suggested to the Defence Committee that the government had lost interest in the medium- and long-term direction of a service that had ensured its very political survival just eight years earlier. If a week is a long time in Parliament then almost a decade was a lifetime in which the memory of the ruling Conservative Party had become extremely short. Political disinterest at the higher levels was rapidly

translating at lower levels as well as operationally into naval atrophy in terms of equipment and falling manpower levels. In short order, the diminishing numbers of ships would result in the abandonment of specific roles and, more importantly, during a crisis the nation's ability to respond with naval forces would be curtailed. The key question was how much further could the Fleet shrink before a critical mass was achieved, or in other words the state of existence, when the paucity of ships would rule out the ability to perform specific functions that had always underpinned the institutional culture of the Royal Navy. The first victim in such a future nightmare scenario would be unilateral military operations with the exception of minor naval threats and/or constabulary roles such as anti-drug operations as well as fishery patrols. Fighting high intensity warfare with a gamut of capabilities from aircraft-carrier operations to amphibious warfare would also be extremely difficult and risky without the necessary escorts. Increasingly, should these negative trends continue then the future would revolve around multilateral operations and a shift away from a blue water (ocean/global) orientation to a more brown-water (coastal/national) specialization, particularly one centred on Britain and Europe.

The genuine concern that the government had adopted a tacit *laissez-faire* policy to the force structure of the Royal Navy was further reinforced by its declaratory policy towards other parts of the surface fleet. With regard to the mine countermeasure vessels (MCMVs), *Options for Change* merely confirmed a commitment 'at about present levels' which was in fact around 40 vessels. What the defence white paper does not reveal is that within this figure of 40 ships, 14 of the Ton class mine-countermeasure ships were well beyond their planned lifespan (in some cases over 35 years old) and would have to be disposed at some time in the near future.[60] The commitment to amphibious capabilities was equally woolly with no assurance that the specialized ships HMS *Fearless* and HMS *Intrepid* would be replaced in the future, especially as both vessels were rapidly nearing the end of their operational lives.[61] Surprisingly, *Options for Change* 'made no reference'[62] to the Royal Fleet Auxiliary (RFA) that provide essential logistical support for the Royal Navy on operations. To a significant extent, the difference in terms of clarity concerning the surface fleet between the 1981 and the 1990 defence reviews could not be more striking. The former utilized a high-quality surgical procedure that clearly and precisely (but also painfully and controversially) revealed layer by layer an in-depth analysis of the anatomy of the

service with prescriptions for each individual part. In contrast, the latter review adopted a hand-off holistic medicine (non-invasive and without arousing widespread public fears) approach that required a great deal of faith from the patient about the road ahead. In part, the government's use of language to describe its policy toward the future shape of the Royal Navy's surface forces in 1990 is a masterpiece of obfuscation that ostensibly changes very little but by supporting the status quo would actually facilitate inevitable and profound end-of-life-cycle changes in many parts of the Fleet in the short term.

The most radical aspect of the *Options for Change* defence review tackled an area of the Royal Navy which had emerged out of the last defence review rather well – submarines. If the massive and overwhelming threat from the Soviet Navy had proved to be the saviour of the Submarine Service in 1981 then its anticipated demise in 1990, unsurprisingly, heralded significant cutbacks in these capabilities. The Defence Committee records that

> In his 25 July 1990 statement, the Secretary of State told the House –
>
> 'We need to take account of the decline in the size of the Soviet navy, but also of its continuing modernisation, especially with new classes of submarine . . . In addition to Trident, we envisage a future submarine force of about 16 boats of which three quarters would be nuclear-powered.'
> The accompanying factsheet referred to a current submarine force of 27 nuclear and diesel powered submarines, reduced to 'perhaps around 16 nuclear and diesel submarines'. On 31 July, the retirement of CONQUEROR, ODIN and ONSLAUGHT were announced. In September the decision was taken to decommission WARSPITE and CHURCHILL. ONYX was decommissioned in December 1990. VALIANT and COURAGEOUS may well be decommissioned in the near future. That would leave 13 SSNs: if, as has been suggested, and as MoD have notably failed to deny, SWIFTSURE and SOVEREIGN were also to be retired, there would be 11 SSNs. Oberon class boats will be retired as they approach the due date for refit, so that by 1995 there will be only the four Upholder class SSK ordered in 1986, and to be completed by 1993.[63]

The decision to reduce the size of the submarine force by more than 40 per cent alarmed the Defence Committee to the extent that they produced a separate House of Commons paper on this

issue just a few months after this report.[64] This new paper questioned in detail how the government came to the conclusion of how many submarines would be available in each category (nuclear and conventionally-powered) for future operations. It also drew upon the advice of four retired naval officers: Admiral Sir John Woodward, Vice Admiral Sir Ian McGeoch, Rear Admiral Hill and Commander Richard Compton-Hall.[65] One of the great strengths of this paper was its illustration of the separate wartime tasks of the two categories of submarines, in particular the usefulness of the non-nuclear variety (SSK) that were going to be reduced significantly under the government's proposals:

> Although the difference in draught between a Trafalgar class SSN and an Upholder class SSK is as little as 10 to 12 feet, an SSK is generally more suited to shallow water operations, being smaller and more manoeuvrable. SSKs are quieter when on electric propulsion than an SSN running on turbines. They also have a capability, which SSNs do not, to lie on the seabed in complete silence, and are thus virtually undetectable, subject to the requirement to return to periscope depths or to surface to take in air: no captain would be happy to risk an SSN in this way. This renders SSKs particularly suitable for reconnaissance and surveillance. Upholder class SSKs also have a five-man chamber designed for the reception, launching and recovery of shore parties, if necessary submerged.[66]

Reducing the numbers of SSKs would by definition reduce Britain's ability to engage other submarines in ambush scenarios for which SSKs lying in wait on the seabed were very suitable and also to deploy Special Forces as well as carry out shallow-water surveillance missions. Using a highly expensive and much larger SSN in the latter two roles entailed a higher risk factor. The costs of maintaining the modern diesel electric boats was another factor noted by the Defence Committee in the decision to retain just four of the Upholder class vessels. The life-cycle costs of a Trafalgar class SSN were estimated to be '£765 million' and those of an Upholder class SSK '£315 million', but the report makes the important point that 'while an SSK costs as much as a half or two-thirds of an SSN to buy, its life cycle costs are around 40 per cent'.[67] Put simply, these submarines appeared on paper quite expensive in relation to the nuclear-powered versions. Another important area of dispute with the government concerned the numbers of SSKs to be retained but even the Defence Committee's naval advisers were divided on this issue, 'Admiral Sir John

Woodward felt that 4 was enough: Rear Admiral Hill suggested 9; and Commander Compton-Hall 8' but the report split the difference by proposing at least six.[68]

The diminishing-manpower issue was another point of contention between the Defence Committee and the government over the clarity and accuracy of the figures being used in the *Options for Change* defence white paper about the numbers of personnel available for duties in the Royal Navy and the Royal Marines. The report states:

> The Secretary of State's Options for Change statement envisaged an overall RN/RM force of 'about 60,000'. The factsheet referred to manpower at 1 April 1990 as being 63,000. These figures are potentially confusing since they relate to both trained and untrained personnel. The *actual trained strength* of the RN/RM at April 1990 was 55,700. Its *planned trained strength* at that time was 57,600. Its *trained establishment*, which represents the assessed requirement and therefore the optimal position on the same definitions, was 58,300. The figure of 60,000 in Options for Change represents the anticipated future requirement for trained and untrained personnel. It may be optimistic to hope that it will be easier than hitherto to avoid shortfalls, but it is plainly sensible to estimate requirement. **The reduction proposed is apparently of the order of 6,000, that being the difference between the 1990 requirement and the anticipated 1995 requirement. The real fall in numbers will be substantially less than that.**[69]

From this assessment, it is clear that the government figures are speculative rather than accurate and do not reflect the true manpower levels in the service across the board; however, the Defence Committee does reveal that the number of reductions is estimated to be around 6,000. The dangers of this theoretical approach to manpower levels in the Royal Navy were numerous, particularly in view that the last round of cuts had placed great strains on existing service personnel trying to cover the gaps. The term 'gapping' is still a popular term in the contemporary Royal Navy and is used to describe specific manpower shortages that requires sailors to somehow manage (often by doing several jobs) until the shortfall is filled. First and foremost, working from planned numbers rather than actual strength creates a paper delusion of the true state of affairs in the Navy. In addition, it was likely that a debilitating action-reaction cycle concerning falling manpower levels would be perpetuated by this failure to

substantially reduce the overstretch factor throughout the Fleet, with a consequence of much lower manning levels that either the government or the Defence Committee had anticipated in a very short space of time.

The tone of the Defence Committee toward the broad thrust of the *Options for Change* defence review is one that exudes exasperation at times with the government for not either recognizing the very pressing structural problems within the Royal Navy or putting forward comprehensive solutions to these issues rather than piecemeal ones. The final paragraph of the report is revealing:

> **In other words, we have been here before**. Ten years ago, as a result primarily of financial pressures, the Government proposed a substantial reduction in the surface fleet and a greater dependence on submarine and maritime air power. This was followed by the hostilities in the Falkland Islands and a reassessment. In July 1990, in response to a rapidly changing strategic environment, the Government proposed a reduction in the surface fleet, a significant cut in submarine strength, and maintenance of existing maritime air capability. These proposals have now been followed by hostilities.[70]

The anticipation from the Defence Committee was that a separate white paper like Cmnd 8758 of the Falklands Conflict would be produced but, in fact, the lessons of the Gulf War were revealed as part of the *Statement on the Defence Estimates 1992*[71] rather than a stand-alone command paper. Many lessons had been learnt by the Conservative administration after the controversy of the 1981 defence review and the humiliating public climbdown (or so it appeared at the time) concerning many of the most notable victims of the paper. *Options for Change* barely caused a public ripple concerning the Royal Navy with the reductions set for the British Army taking most of the national attention, especially the amalgamations of famous regiments. In reality, the implications of the 1990 defence review were as significant as that of the 1981 defence review because it did nothing to reverse the debilitating trends within the surface fleet or the manpower problem. A 'hands-off' approach by the government merely accelerated the cracks in the service's structural integrity (that were visible in 1982) and in fact added a new dimension with the sweeping cuts in relation to submarines, especially the non-nuclear boats. The future and state of the Royal Navy at the start of the 1990s looked no better than that in the early years of the previous decade but

this time, due to an already reduced body weight, the bones would begin to show by the start of the new millennium.

THE PERSIAN GULF WAR

The outbreak of the Gulf crisis in the summer of 1990 caught many nations by surprise. The post-Cold War environment or what President George Bush Snr labelled the 'new world order'[72] appeared to promise a new era of stability and peace in international relations, but the Iraqi invasion of Kuwait on 2 August with more than 100,000 soldiers and around 2,000 tanks quickly challenged this notion. One of the most extraordinary aspects of the diplomatic crisis and subsequent conflict in the region the following year was that six months previously Saddam Hussein had enjoyed good relations with the vast majority of the nations that fought against him in the United States-led coalition. Another notable element in the remarkable speed of reaction by the international community was the oil factor. Saddam's annexation of Kuwait meant that Iraq now controlled 20 per cent of the world's known oil supplies and was in a position to influence a further 20 per cent in neighbouring Saudi Arabia. For countries like Britain, interests in the Middle East were not based solely on resources but also on shared history. Kuwait had since the end of the nineteenth century relied on the former colonial power for defensive purposes. Even after independence in 1961, Kuwait had turned to Britain for military assistance from a potential threat of invasion from Iraq in the same year.[73] Much of the response was provided by the Royal Navy in the form initially of the commando carrier HMS *Bulwark* and 750 men from 42 Commando, which were quickly strengthened by 45 Commando and various British Army units. Eventually two aircraft carriers and almost a dozen destroyers and frigates with accompanying minesweepers and Royal Fleet Auxiliary support would be deployed off the tiny independent state, convincing Iraq not to invade.[74]

In 1990, Britain's concern about the plight of Kuwait was still as strong as that of 1961, but this time there had been no call for help because the Kuwaitis themselves did not take the Iraqi build-up of forces along their border from July onward seriously, even when it exceeded 100,000 troops toward the end of that month. Furthermore, the amount of British naval ships deployed in the region was much smaller in the 1990s than it had been in the

1960s when two of its major warships, HMS *Bulwark* and the aircraft carrier HMS *Victorious*, had been conveniently sailing off Pakistan and, in the latter case, heading toward Hong Kong.[75] The long-standing Prime Minister, Margaret Thatcher, who was in the United States, reacted to the news of Iraq's invasion of Kuwait in the same manner that she had responded to the Argentine invasion of the Falklands nearly a decade earlier. Freedman and Karsh suggest that 'She saw Saddam as another in a series of dictators against whom Britain must react strongly and robustly'.[76] On a less personal note, Iraq's annexation of Kuwait posed significant strategic consequences for Britain's relationship with the region as a whole. Keohane suggests that:

> Following the invasion, the Thatcher government identified grave new threats to British interests in three specific domains. First, if Saddam Hussein was allowed to retain control of Kuwait, he could exert a compelling influence on the output and price of the oil needs of Britain's European partners and perhaps on the very supply of that vital commodity. (Britain continued to import heavy crude oil from the Middle East to generate an approximate mix of oil for refining purposes.) Second, it would inflict great damage upon Western influence with the wealthy, but militarily weak, Gulf states including the key country of Saudi Arabia. Such a change would sharply reduce opportunities for the large volume of British exports – including arms exports – to those countries and for investments by those states in the UK. Third, the British government had a concern about the 40,000 British residents in the Gulf states – the largest group of Europeans living in the Middle East.[77]

The flow of British (purchased) oil, influence and expatriates were directly threatened by Saddam's military offensive in the Middle East that in order of priority could not be simply ignored. Equally important was Britain's 'special relationship' with the United States concerning possible international responses to the question of Iraq's aggression and challenge to international peace. President George Bush Snr took a particularly strong stand over the issue of Kuwait and invoked powerful historical analogies to support his case:

> Six days after the invasion of Kuwait, Bush made his first important televised address on the subject. 'If history teaches us anything', he declared, 'it is that we must resist aggression or it will destroy our freedoms. Appeasement does not work. As was the case in the 1930s, we see in

> Saddam Hussein an aggressive dictator threatening his neighbours.' There followed a blizzard of speeches on the same theme. All confidently identified the elementary 'lesson of history': appeasing aggressors only leads to further aggression, and ultimately to war. Aggression unchecked is aggression unleashed.[78]

The United States quickly took the lead in terms of mobilizing international support with a condemnation of the Iraqi invasion by the United Nations, UN Security Council Resolution (UNSCR) 660 being passed on the same day that Iraqi forces entered Kuwait. In addition, military planners had a strategy already in hand for the defence of Saudi Arabia called 'Plan 1002-90' that envisaged Central Command (or CENTCOM that had special responsibility for the Middle East) under General H. Norman Schwarzkopf, sending approximately a quarter of a million troops to Saudi Arabia to defend the oil fields. The critical issue was persuading King Fahd of Saudi Arabia to accept the presence of such a large number of predominantly Christian soldiers in a country that possessed Islam's holiest sites. To facilitate such an outcome, a high-level meeting was arranged between Secretary of Defence Dick Cheney, Deputy Adviser on National Security Affairs Robert Gates, General Schwarzkopf and King Fahd on 6 August. During these discussions, the American delegation showed the Saudi Arabian leader satellite imagery that revealed Iraqi forces near the border with his country in what could be construed as a prelude to an attack on the kingdom itself. The issue of whether Saddam Hussein ever intended to attack Saudi Arabia will remain a matter of historical conjecture but the satellite information persuaded King Fahd to allow the build-up of coalition forces from that moment onward in an operation called 'Desert Shield'.

Britain's contribution to Operation Desert Shield, known as Operation Granby, evolved slowly but ended up involving around 45,000 service personnel[79] in-theatre; that was a huge commitment of its peacetime regular forces. The aim of the mission has been described as:

> The initial objective of Operation GRANBY was to help deter any further aggression by Iraq in the Gulf and particularly against Saudi Arabia. The objectives were later expanded to: secure, together with our Coalition allies, a complete and unconditional Iraqi withdrawal from Kuwait; restore the legitimate government of that country; reestablish peace and security in the area; uphold the authority of the United Nations.[80]

In terms of strategy, the location of the theatre of operations was approximately 6,300 miles from the United Kingdom by sea,[81] ostensibly another long distance campaign like Operation Corporate in the South Atlantic, but the significant difference was that British forces would enjoy host-nation support from Saudi Arabia and the Gulf states conveniently adjacent to Kuwait itself. In this campaign, unlike the last one, the geographical factor more than anything else placed greater emphasis on the role of British air and land power rather than offensive sea power, though it remained very important in the light of the huge logistical effort required to equip as well as support a heavy armoured division in the field. Host-nation support bore the brunt of a significant part of the logistical effort (in the Falklands campaign, everything had to be carried on ships), thereby reducing the overall burden on the support ships. From a Royal Navy perspective, Britain already possessed a significant presence in the form of the Armilla Patrol and benefited from the ten years of operational knowledge accrued in this region since the inception of the first patrol at the start of the 1980s. According to the recollections of one former senior naval officer during the Gulf War,

> Out in Gulf waters, the initial British naval force, Group Whisky, comprised the destroyer *York* (Captain Tony McEwan), the frigates *Battleaxe* (Commander Andrew Gordon-Lennox) and *Jupiter* (Commander John Wright), and the tanker *Orangeleaf* (Captain Mike Farley). Commodore Paul Haddacks joined *York* on 10 August with just one staff officer.
>
> These warships were replaced in September by Group Xray comprising *Brazen* (Commander James Rapp), *Cardiff* (Commander Adrian Nance), *Gloucester* (Commander Philip Wilcocks) and their new flagship, *London* (Captain Iain Henderson), to which Paul Haddacks and his small staff transferred. He was busy setting up the command organization that I would inherit ten weeks later and directing his escorts into patrol and interception areas against the still vast number of merchant ships transiting the Straits of Hormuz, the gateway to the Gulf. Thereafter, British force levels steadily increased as the task of embargo grew and as the possibility of war became more distinct.[82]

Overall, the Royal Navy would commit 11 destroyers and frigates, two diesel-electric submarines, eight MCMV vessels with two support ships, three patrol craft and supporting helicopter aviation. The Royal Fleet Auxiliary would also provide one

helicopter support ship, four landing ship logistics (LSLs) and six other vessels either tankers or replenishment ships.[83] It was a significant force but by no means comparable in either size or firepower to the naval Task Force that had sailed to the South Atlantic in 1982. The key reason was very simple: there was no need for an equivalent force package because the Gulf War was a multilateral operation, involving many international partners with the US Navy's contribution alone exceeding that displayed in the South Atlantic, several times over. In total, the US Navy would provide six carrier battle groups for operations in the Kuwaiti theatre of operations and at one stage, four aircraft carriers would be in the Persian Gulf with the British naval forces.

The Iraqi opposition to the coalition naval forces were at a considerable strategic and tactical disadvantage in view of equipment and weapons platforms. Unlike Iraq's land forces that were considered to be the fourth largest in the world[84] with 1.2 million men available for operations in 1991[85] or the Iraqi Air Force that was the sixth largest in global terms,[86] the Iraqi Navy was very small in comparison. Marolda and Schneller list its shortcomings:

> The most potent threat from its largely obsolescent inventory of about 165 naval craft came from 13 missile boats, including 7 ex-Soviet *Osa* boats armed with Styx antiship missiles and 1 FPB-57 and 5 TNC-45 Exocet missile boats captured from Kuwait. The Styx, the first Soviet sea-based antiship missile to enter service, was a radar- or infrared-homing, fire-and-forget weapon with a speed of Mach 0.9, an effective range of 16 to 45 miles, depending on variant, and a 1,100-pound warhead . . . Except for a training frigate, which was not assessed as a serious threat, the rest of Iraq's navy consisted of small patrol boats, a few hovercraft, amphibious landing ships, and auxiliary vessels, including Soviet S.O. 1 and *Zhuk* patrol boats; Soviet *Polnocny-C* class tank landing ships; and a *Spasilac*-class salvage ship. Most analysts thought that the best this flotilla could do was to 'harass' coalition warships.[87]

The major problem for the Iraqi Navy was the paucity of the country's shoreline that probably explains to a degree the lack of attention in comparison to the other two branches of the armed forces. However, the constraining geography of the Persian Gulf also offered Iraq as a defending nation several distinct opportunities/advantages. First, the limited amount of sea space made surface vessels extremely vulnerable to antiship missiles

fired by high-speed aircraft like the Mirage F-1, of which Iraq had more than 60.[88] The French-designed Mirage was a good-quality aircraft that can perform a variety of roles from air-to-air combat to anti-shipping missions. Overall, it offered a highly dangerous combination when armed with the AM-39 Exocet missile, a combat-proven weapon that had caused significant disruption to British naval operations during the South Atlantic campaign despite the fact that Argentina only possessed a small quantity of them. In addition, Iraq had demonstrated an ability to hit targets effectively albeit mistakenly in the Persian Gulf, just a few years earlier. In May 1987, an Iraqi aircraft fired two Exocets at a suspected Iranian ship that was in fact the American warship USS *Stark*. Hallion recalls of this incident, 'Unfortunately, in part because of confusion over rules of engagement and inattention, the ship did not get its defenses together in time, and, as a result, thirty-seven Americans died'.[89] The USS *Stark* had managed to stay afloat, despite suffering both hits, and as a result of its excellent damage-control procedures made it back to port for repairs. In sum, the air-launched Exocet missile was a very potent weapon in Iraq's arsenal.[90] Furthermore, from its lucrative relationship with the Soviet Union, Iraq also possessed AS-4 Kitchen and AS-5 Kelt long-range antiship missiles[91] that had provided NATO and Royal Navy planners with theoretical nightmares concerning their potential mass use in the northern waters around Norway.

Secondly, the narrow waters of the Persian Gulf offered an ideal environment for mine warfare which was an area of naval warfare that the most powerful navy in the world, the US Navy, and other navies had neglected over the years. Many of the American minesweepers sent to the Gulf were in age terms, '1950s-vintage'[92] and did not greatly inspire the initial US naval commander in the region, Vice Admiral Henry Mauz who states that they 'were not well trained, their equipment was not reliable, and they lacked confidence'.[93] In contrast, the Royal Navy sent the most advanced mine-countermeasure ships in the world, the Hunt class, and their experience in this often neglected dimension of naval operations proved to be extremely valuable. The price of such state-of-the-art vessels to the Royal Navy was not cheap and 'in cost per ton, their ships were the most expensive vessels afloat – nearly £50 million for each 750-ton craft'.[94] Cordesman and Wagner illustrate the parameters of the task facing the coalition ships with regard to the threat from mines:

> Mine warfare was one of the few areas where the long pause between Iraq's invasion of Kuwait and the beginning of

> Desert Storm acted to Iraq's advantage. Iraq used the time to deploy an extensive set of minefields off of the coast of Kuwait, which affected both the Coalition's options for amphibious warfare and many of its other naval operations. Iraq's minelaying strategy concentrated on protecting its coastal flank from an amphibious invasion. Iraq began intensive minelaying in late November and used two main methods of offshore mining. It laid fields of moored and bottom mines and single lines of mines. Iraq also seems to have set some mines adrift to disrupt naval and commercial traffic in the upper Gulf and damage Coalition ships.[95]

Iraq possessed a wide variety of mines (it actually deployed 1,000–2,000 mines during the Gulf War)[96] from extremely primitive and cheap Soviet contact mines to more sophisticated acoustic/magnetic mines such as the Italian Manta.[97] These mines were delivered either by small boats or from the air in some cases, for example the Sigeel 400 from helicopters. The very presence of mines in the Gulf placed a brake on the activities of major surface units who simply could not operate within the vicinity of these minefields safely without accompanying mine-countermeasure support in the form of small ships or the MH-53E Sea Dragon helicopters that were designed to neutralize specific types of mine. Their existence also placed great constraints on the execution of large-scale amphibious operations – the thought of a landing craft packed with US Marines hitting a mine while heading toward a beach was simply unthinkable given the political sensibilities toward American casualties after the Vietnam War. In general, Iraqi mine warfare proved to be a cost-effective means of disrupting coalition operations, with these ancient relics that cost in some instances just tens of dollars threatening billion-dollar coalition warships.

The Royal Navy, in close association with its coalition partners, faced a variety of challenges in supporting the overall British political aims encapsulated in Operation Granby. For the service, it was the first major operations since the Falklands Conflict just eight years earlier, and an opportunity to see how many lessons had been absorbed from that high-intensity combat. In the lee period between the Falklands and the Gulf War, the Royal Navy was enduring extremely pressing structural and personnel contractions that were exacerbated by enhanced peacetime commitments that had stretched the institution to the limits. In political terms, too, the Navy was struggling to reacquire the levels of support that it had enjoyed after the last conflict, support essential to its future well-being. The critical question, in the light

of this new opportunity to demonstrate its worth to Britain's political leadership, was whether these difficulties had degraded the Navy's ability to deploy effectively within a multilateral operation as well as fight in a culturally conducive manner with the strategy and equipment of choice.

NOTES

1. The Sixth Report from the Defence Committee, *The Future Size and Role of the Royal Navy's Surface Fleet*, HC 309 (London: HMSO, 1988). A notable feature of this report is the amount of text that has been placed in bold font for emphasis.
2. Ibid., paras 1–2, p. v.
3. Ibid., pp. xlii–xlv.
4 See The Sixth Report from the Defence Committee, *The Royal Navy's Surface Fleet: Current Issues*, HC 419 (London: HMSO, 1989), para 13, p. viii.
5. See *Future Size and Role*, HC 309, p. xliv.
6. Ibid., pp. xlii–xliv.
7. Nelson distinguished himself as the Captain of the frigate HMS *Boreas* and more famously, the 64-gun HMS *Agamemnon*. See N. Tracy, *Nelson's Battles* (London: Caxton, 2001), pp. 18–19.
8. C. Barnett, *Engage the Enemy More Closely* (Harmondsworth: Penguin, 2000), p. 223.
9. *Future Size and Role*, HC 309, para. 41, p. xiv.
10. Ibid., Table I, p. xiv.
11. Ibid., para. 42, p. xiv.
12. J. Baylis, 'Introduction: Defence Policy for the 1980s and 1990s', in Baylis (ed.), *Alternative Approaches to British Defence Policy* (London: Macmillan, 1983), p. 5.
13. *Royal Navy's Surface Fleet*, HC 419, p. xvii.
14. See R. P. Hallion, *Storm Over Iraq: Air Power and the Gulf War* (Washington: Smithsonian Institution Press, 1992), p. 296.
15. E. Southby-Tailyour (ed.), *Jane's Amphibious Warfare Capabilities Issue Four* (Coulsdon: Jane's, 2000), p. 539.
16. K. Hartley, *The Economics of Defence Policy* (London: Brassey's, 1991), p. 15.
17. M. Chalmers, 'The Future of the Royal Navy's Frigate and Destroyer Fleet', *Future Size and Role*, HC 309, Appendix 7, p. 122.
18. *Future Size and Role*, HC 309, para. 78, p. xxiii.
19. Barnett, *Engage the Enemy More Closely*, pp. 255–6.
20. Ibid., p. 256.
21. *Future Size and Role*, HC 309, para. 80, p. xxiii.
22. D. Wettern, *The Decline of British Seapower* (London: Jane's, 1982), pp. 1–2.
23. S. Roskill, *The Navy at War 1939–1945* (London: Collins, 1960), p. 21.
24. *Future Size and Role*, HC 309, paras 106–7, p. xxx.
25. Ibid., paras 109–10, p. xxx.
26. Ibid., para. 109, p. xxx.
27. Ibid., paras 116–17, p. xxxi.
28. Ibid., Table III, p. xxxii.
29. Commander Michael Chichester, 'The Role of the Surface Fleet', *Future Size and Role*, HC 309, Appendix 2, p. 104.
30. See *Royal Navy's Surface Fleet*, HC 419, Table II, p. xiii.
31. *Future Size and Role*, HC 309, Table III, p. xxxii.
32. Ibid., para.115, p. xxxi.
33. Ibid., para. 10, p. vii.
34. Ibid., para. 11, p. vii.
35. Ibid., para. 11, p. vii.
36. Ibid., paras 12 and 13, pp. vii–viii.
37. Ibid., para. 14, p. viii.
38. See The Third Report from the Defence Committee, *Options for Change: Royal Navy*,

HC 266 (London: HMSO, 1991), para. 17, p. xi.
39. S. J. Tangredi, 'Sea Power: Theory and Practice' in Baylis, Wirtz, Cohen and Gray (eds), *Strategy in the Contemporary World* (Oxford: Oxford University Press, 2002), pp. 125–6 (explanation added).
40. *Future Size and Role*, HC 309, para. 25, p. xi.
41. *Options for Change*, HC 266, para. 5, p. vi.
42. See The Sixth Report from the Defence Committee, *Royal Navy Submarines*, HC 369 (1991), para. 1, p. v.
43. *Future Size and Role*, HC 309, para. 26, p. xi.
44. J. Baylis, 'The evolution of NATO strategy 1949–90', in C. McInnes (ed.), *Security and Strategy in the New Europe* (London: Routledge, 1992), p. 104.
45. *Future Size and Role*, HC 309, para. 30, p. xii.
46. Ibid., para. 31, p. xii.
47. Ibid., para. 32, p. xii.
48. E. J. Marolda and R. J. Schneller Jr, *Shield and Sword* (Washington: Government Reprints, 2001), p. 28.
49. Ibid., p. 28.
50. R. D. Lipschutz, 'Negotiating the Boundaries of Difference and Security at Millennium's End', in Lipschutz (ed.), *On Security* (New York: Columbia University Press, 1995), pp. 217–18.
51. *Options for Change*, HC 266, p. 19.
52. Ibid.
53. Ibid., para. 4, p. vi.
54. Lawrence Freedman, 'Conclusion: The Future of Strategic Studies', in Baylis, Wirtz, Cohen and Gray (eds), *Strategy in the Contemporary World*, p. 340.
55. *Options for Change*, HC 266, para. 5, p. vi.
56. Ibid., para. 14, pp. ix–x.
57. Ibid., para. 19, p. xi.
58. Ibid., para. 20, p. xii.
59. *Future Size and Role*, HC 309, para. 137, p. xxxvi.
60. *Options for Change*, HC 266, paras. 29–31, p. xiv.
61. Ibid., para. 32, p. xv.
62. Ibid., para. 34, p. xv.
63. Ibid., para. 35, p. xvi.
64. *Royal Navy Submarines*, HC 369.
65. Ibid., para. 2, p. v.
66. Ibid., para. 22, p. xi.
67. Ibid., para. 34, p. xv.
68. Ibid., para. 35, p. xv.
69. *Options for Change*, HC 266, para. 38, p. xvii.
70. Ibid., para. 41, p. xviii.
71. *The Statement on the Defence Estimates 1992*, Cmnd 1981 (London: HMSO, 1992).
72. See L. Freedman and E. Karsh, *The Gulf Conflict 1990–1991: Diplomacy and War in the New World Order* (London: Faber & Faber, 1994), p. xli.
73. Ibid., p. 43.
74. Wettern, *Decline of British Seapower*, p. 194.
75. Ibid., p. 194.
76. Freedman and Karsh, *The Gulf Conflict 1990–1991*, p. 75.
77. D. Keohane, *Security in British Politics, 1945–99* (London: Macmillan, 2000), pp. 91–2.
78. A. Danchev, 'The Anschluss', *Review of International Studies*, 20 (1994), p. 98.
79. See The Second Supplement to the *London Gazette*, 28 June 1991, p. G37.
80. Ibid., p. G38.
81. C. Craig, *Call for Fire: Sea Combat in the Falklands and the Gulf War* (Leicester: Charnwood, 1997), p. 259.
82. Ibid., pp. 254–5.
83. *London Gazette*, pp. G47-8.
84. A. H. Cordesman and A. R. Wagner, *The Lessons of Modern War Vol. IV: The Gulf War* (Boulder: Westview, 1996), p. 113.
85. Ibid., p. 115.
86. Freedman and Karsh, *The Gulf Conflict 1990–1991*, p. 281.
87. Marolda and Schneller, *Shield and Sword*, pp. 67–8.

88. Cordesman and Wagner, *Lessons of Modern War Vol. IV*, p. 128.
89. Hallion, *Storm over Iraq*, p. 111.
90. If used correctly, the air-launched Exocet missile could have seriously disrupted coalition naval operations.
91. Cordesman and Wagner, *Lessons of Modern War Vol. IV*, p. 132.
92. Marolda and Schneller, *Shield and Sword*, p. 75.
93. Ibid., p. 75.
94. Craig, *Call for Fire*, p. 259.
95. Cordesman and Wagner, *Lessons of Modern War Vol. IV*, p. 810.
96. Ibid., p. 810.
97. Ibid., p. 810.

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Culture and Operations in the Persian Gulf

The involvement of the Royal Navy in the Gulf War of 1991 can be categorized as very different to its participation in the Falklands Conflict of 1982. By the outbreak of the Falklands crisis, a happy coincidence of circumstances had meant that not only did a naval officer hold the highest military position in Britain, the Chief of the Defence Staff (CDS) Admiral Sir Terence Lewin, but also the First Sea Lord Admiral Sir Henry Leach wielded considerable influence with Prime Minister Margaret Thatcher at a critical moment. In addition, the recapture of the Falkland Islands, Operation Corporate (commanded by Admiral Sir John Fieldhouse from the naval headquarters at Northwood), was a unilateral operation and the Royal Navy had formed the strategic foundation stone on which the successful outcome of the campaign ultimately rested. In contrast, by 1990 the Royal Navy's position within Operation Granby and overall political influence was significantly reduced. The CDS was Marshal of the Royal Air Force Sir David Craig and the most senior joint commander of operations was a fellow airman, Air Chief Marshal Sir Patrick Hine whose operations centre would be at the RAF Strike Command Headquarters at High Wycombe. Most importantly, operations in the Persian Gulf were multilateral in nature with the naval forces playing a subordinate role to the air and land dimensions.

OPERATIONAL CONTEXT

The Persian Gulf region offered a uniquely convenient area for modern conventional forces to fight without the usual problems

associated with long-distance operations such as a shortage of bases, ports and key logistics such as fuel. This point was highlighted by the Defence Committee in its 'lessons' paper on Operation Granby:

Operation Granby was unusual in the degree of host nation support available, particularly:

- the availability of Jubayl, a vast, modern and little-used port, with full infrastructure, and other shore facilities at Mina Sultan and Jebel Ali;
- several modern military airfields, in some cases already used by Tornado aircraft of the Royal Saudi Air Force (RSAF);
- unlimited fuel at source;
- substantial provision of accommodation, food, water and transport.

> Without these assets, the United Kingdom would have been stretched to provide logistic support; it would certainly have been a great deal more expensive. The scale of the deployment would have had to be reduced, and the time required to complete it greatly increased. **It is questionable whether, without the host nation support and infrastructure available, the UK could have contemplated operations on anything like the same scale.**[1]

The existence of host-nation support that, in some cases like Saudi Arabia, was directly adjacent to the Kuwait meant that the onus on naval forces was dramatically reduced in specific areas: hundreds of thousands of troops, for example could be flown into the operational theatre. The United States alone flew in half a million soldiers and half a million tons of cargo during Desert Shield and Desert Storm.[2] In comparison, Britain despatched 53,000 tons by air that represented about one-sixth of its total logistical effort;[3] however, in both cases the vast majority of heavy cargo (95 per cent in total[4]) arrived by sea. It was also extremely rare to find a theatre of combat so close in terms of location to plentiful supplies of fuel, given that during intensive periods of activity the four armed forces of the United States, by themselves, were consuming 19 million gallons of fuel per day.[5] These factors and the limited amount of resistance or interdiction demonstrated by the Iraqi forces have resulted in some official documents highlighting the 'exceptional nature' of the conflict:

It must be remembered that there were a number of exceptional factors in Operation Granby, which lead us to counsel caution in attempting to draw specific lessons for general application:

- the predominant role of the United States, in an ad hoc coalition including non-NATO countries;
- the *exclusion* from the UK contribution of most of the forces designated for deployment out of area and *inclusion* of forces rarely contemplated in such a role;
- the geographical environment of generally featureless desert, exceptionally suited to the use of air power, the unusually cold and wet weather, and avoidance of the hottest season;
- the sophisticated and readily available in-place infrastructure, host nation support, including unlimited fuel and the availability of in-theatre support from equipment suppliers;
- the uninterrupted security of lengthy lines of supply;
- the exceptional length of time for which to deploy and prepare for war, to gather the intelligence necessary for the use of smart weapons, and to choose when and where to attack;
- the relatively slight resistance put up by Iraqi air, ground or naval forces, the early gaining of air supremacy, the freedom of manoeuvre enjoyed, on land, in the air and at sea, and the exceptionally low number of Allied casualties and of equipment losses;
- the nature of the land campaign, as an armoured assault on an aggressor's prepared positions, rather than the defensive campaign for which UK forces are in general prepared.[6]

This type of warfighting environment that offered so many advantages to attacking coalition forces had certainly not been envisaged by British planners prior to the Gulf War – in fact, this scenario was completely unexpected. The unusual set of events that led to Saddam Hussein, a former major trading partner with both Britain and United States, becoming a global pariah almost overnight forced coalition strategists to put together a force package that would be appropriate to neutralize the sizeable Iraqi forces in Kuwait. Light forces like the Royal Marines and the Parachute Regiment, Britain's typical military response to an overseas crisis, would have been completely inadequate against the heavy-armour divisions of the elite Republican Guard armed

with modern main battle tanks like the Soviet T-72. Instead, armoured brigades (4th and 7th 'Desert Rats' combined to make 1 (BR) division) possessing the powerful Challenger I tank with supporting artillery and infantry, usually found exercising on the plains of West Germany, were hastily organized and sent to Saudi Arabia. The immense Iraqi Air Force armed with the latest Soviet air-superiority fighters like the MiG-29 would have easily, on paper, swamped the normal expeditionary-force package of seven Sea Harriers sent to support the Royal Marines, so a more powerful air option was needed. In response, the Royal Air Force sent a sizeable contingent of aircraft that eventually made it the third largest air force in the coalition.[7] Its heavy units included Tornado GR 1 ground attack aircraft armed with the powerful JP 233 runway-denial system that dispensed mines and penetrating munitions along the length of a runway, as well as the F3 and GR 1A (Reconnaissance) variants, Jaguar and Buccaneer attack aircraft. Another factor that complicated the operational planning of the British forces was the real threat of Saddam Hussein's using chemical or biological weapons, because history had demonstrated his willingness to use them both on his own population in 1988 and during the Iran/Iraq war of 1980–1988. According to one official source:

> 1. During the Gulf crisis the possibility that Iraq might use chemical and biological weapons was a major concern for coalition forces.
> 2. The value of the United Kingdom's investment over a number of years in research, development and procurement of Chemical and Biological Defence (CBD) equipment such as the chemical agent monitor and the S10 respirator was confirmed. Despite the very different climatic conditions from western Europe, our physical preparedness to fight in a chemical and biological warfare (CBW) environment compared very favourably with that of allies with whom close collaboration was maintained; the United States Marine Corps purchased substantial quantities of the British Mark IV NBC suit and S10 respirator; Saudi Arabia also procured British chemical defence equipment.[8]

The level of concern about the potential use of these weapons resulted in the mass inoculations of British forces in the Gulf against various chemical and biological agents. Lt-Gen. Sir Peter de la Billiere who was in overall command of British forces in the Middle East recalls that one inoculation made him feel 'extremely ill'[9] for a period of time. Some analysts speculating about the size

of Iraq's capabilities concerning these weapons of mass destruction highlight the fact that:

> Numerous reports suggested that Iraq was developing weapons systems to carry botulinum, cholera, and typhoid bacteria. Even more concrete intelligence indicated that Iraq possessed some 2,000–4,000 tons of blister-causing mustard gas, as well as nerve agents Sarin and Tabun. The Iraqis could deliver these chemicals with aerial bombs, artillery shells, rockets, aircraft-mounted spray tanks, and surface-to-surface ballistic missile warheads.[10]

The chemical and biological dimension of Iraq's arsenal of weaponry remained at the forefront of coalition planning throughout the Gulf crisis and subsequent war with all personnel regardless of affiliation having respirators and NBC (nuclear, biological and chemical) suits to hand at all times.

CULTURE AND INFLUENCE

The single biggest handicap facing the Royal Navy during the Gulf War was its shortage of influence at the highest levels of the chain of command, resulting in a culturally asymmetric force deployment. The most surprising feature of the Royal Navy's deployment to the Persian Gulf was the absence of an aircraft carrier – its capital ship – as the centrepiece of all operations. Gordon argues:

> In the 1991 Gulf War, again, the British naval command regime was an inappropriate response to the scale and nature of the problem. Royal Navy forces ultimately numbered twenty-six ships, and performed vital roles in the most dangerous waters in the van of the main Allied forces. The military profile of the task, and the need for entry to the high-level councils of our Allies (whose understanding of mine-warfare was not all it might have been) would have justified a two-star flag-officer, and the command facilities of an *Invincible*. Instead, British forces seemed to be regarded by Northwood and Whitehall as merely an enlarged Armilla Patrol (by which the RN had policed the Gulf of Oman since 1980), and remained under the control of a one-star officer, Commodore Christopher Craig, who was much handicapped by cramped conditions and inadequate support facilities in the destroyer *London*.[11]

It seems that, due to a lack of political muscle in Whitehall and the Ministry of Defence, the Royal Navy never expanded its strategic operational remit beyond the purpose of its original deployment that has been described as ' "based purely on a defensive concept", its primary task being enforcement of the UN embargo'.[12] For this task, the destroyers and frigates that comprised the largest ships deployed by the Royal Navy in the Persian Gulf were eminently suitable. However, the strategic shift from a defensive posture to an offensive operation in January 1991 begs the question as to why the Royal Navy was not allowed to send a force package that was more suited to warfighting. In this case, the transition from embargo operations to an all-out attack on the Iraqi forces in Kuwait logically would have demanded the most powerful naval forces available. A capital ship (an aircraft carrier in modern terms), which as Richmond reminds us, represents 'merely the most powerful ship',[13] rather than an escort vessel would have offered a more effective response. Commodore Craig provides one perspective on why the available aircraft carrier, HMS *Ark Royal* was not allowed to engage in operations in the Persian Gulf:

> It was financial pressure that lay at the root of the political refusal to deploy our aircraft-carrier *Ark Royal* in the Gulf. Though it would have taken nearly £20 million to modify her to combat Iraq rather than the Soviet Union, she would have been the ideal command and control platform for our gathering naval force, a task for which she was specifically designed. The supremely single-minded Deputy Commander-in-Chief Fleet, Admiral Roy Newman, had fought to have her converted and deployed but he had not reckoned with the power of the Treasury within the MOD. The carrier never got beyond the Eastern Mediterranean.[14]

It seems almost incredible that the British government was unwilling to spend £20 million to vastly enhance the Royal Navy's ability to conduct operations within the Persian Gulf, most notably to offer organic air cover to the vulnerable mine-countermeasure vessels, when the overall cost of the Gulf War was estimated to be £1.75 billion at the time.[15] When judged in the overall light of the total cost, then financial reasons by themselves do not appear to be the sole reason for the refusal to send HMS *Ark Royal*. In political terms, the Royal Navy also lost a former staunch supporter during the Falklands Conflict, Prime Minister Margaret Thatcher, who was forced out of office by her own Conservative Party in late November 1990. One of the most

interesting accounts about the failure to deploy HMS *Ark Royal* in the Gulf area is revealed by Lt-Gen Peter De La Billiere, who acknowledges putting in a request for the aircraft carrier, eventually persuading General Schwarzkopf of its usefulness, particularly when supported by Vice Admiral Mauz, the senior US Navy commander, but:

> Washington, however, found little in its favour and, although the request was passed on in the direction of London, it mysteriously failed to arrive for a long time, becoming delayed, I was told, in Switzerland. By the time we raised the subject yet again with the Ministry of Defence, it was too late: people had made up their minds that the carrier was not necessary and HMS *London* continued to act as Flagship throughout the war.[16]

This explanation is also extraordinary in view of the sheer scope of the aircraft-carrier saga that is suggestive of either institutional incompetence on the behalf of the American government department that dealt with the request or a deliberate example of burying an unwelcome call for another high-profile ship in the Persian Gulf. For the British forces, the Gulf War occurred at an auspicious time – the Options for Change defence review had just been announced with the biggest cutbacks in armed forces for decades – when proposals were still in flux and a good performance with high media attention for the audience back in the United Kingdom could alter long-term strategic planning. This was the major lesson of the Falklands campaign that had led to the reassessment of the sale of a major capital ship, HMS *Invincible*, whose transfer to Australia was subsequently cancelled. The question of whether the decision not to deploy the aircraft carrier was caught up in interservice politics (as well as all the other factors) remains a moot point. As an interesting contrast, during the recent Gulf War II in 2003, HMS *Ark Royal* was at the forefront of British naval operations and the Chief of the Defence Staff was Admiral Sir Michael Boyce.

The absence of a British aircraft carrier in the Persian Gulf also had very significant implications for the overall command structure. One of the most striking features of Operation Granby was the disparity in rank between the three most senior air, land and sea commanders. The key air commanders, initially Air Vice-Marshal 'Sandy' Wilson who was replaced after his tour of duty had expired on 17 November by Air Vice-Marshal William Wratten, held two-star ranks.[17] Lt-Gen. Sir Peter de la Billiere was a three-star General and his operational commander of 1 BR

division, Maj-Gen. Rupert Smith, was also a two-star officer. In contrast, both naval commanders (Senior Naval Officer, Middle East or SNOME) in the Persian Gulf, first Commodore Paul Haddacks who remained in charge of operations until 3 December and then Commodore Christopher Craig who replaced him, were just one-star officers.[18] The deployment of HMS *Ark Royal* would have changed this asymmetric rank structure because a two-star Rear Admiral would have been placed in charge of the maritime forces. Craig reveals the likelihood of this change of command in his memoirs:

> After my return to the United Arab Emirates on 15 December, we were visited by Rear Admiral Peter Abbott, Flag Officer Second Flotilla, accompanied by his designated relief, John Brigstock. He had responsibility for the Royal Navy's worldwide commitments outside the NATO area but he lacked a direct command and control function over the ships in the Gulf. Nevertheless, he was showing support and interest, offering help where he could. Were the aircraft-carrier *Ark Royal* to be deployed, he would almost certainly have embarked with his staff, thereby sidelining me. Thus the visit had a certain tension. As for John Brigstock, I was already well aware that he had been lobbying anybody and everybody to take over the British maritime forces as soon as possible, preferably in 'his' aircraft-carrier. We were all scrupulously polite to each other throughout the visit, but somehow I felt they had come to measure the carpets.[19]

The other significant operational consequence of placing a relatively junior commanding officer in charge of the naval forces in the Persian Gulf was the inevitably reduced weight of his rank with other navies. With regard to the US Navy, their commanding officers (Vice Admiral Mauz who was replaced as his tour ended on 1 December 1990 by Vice Admiral Stanley Arthur) were several ranks higher in terms of seniority with at least seven subordinate Rear Admirals to help run operations.[20] The Royal Navy's chain of command in the Persian Gulf was surprising in view of the failure to emplace a more senior officer and an aircraft carrier in the Persian Gulf. A cultural assessment of the service suggests that these two elements would have been the 'preferred choices', and secondary sources appear to verify these desires, but in both cases they were denied permission to deploy to the region. This fact, by itself, reveals a great deal about the reduced influence of the Royal Navy in Whitehall and in the command structure of the Gulf campaign.

SURFACE SHIP OPERATIONS

The naval requirements of Operation Granby in the Persian Gulf can be divided into two key phases, embargo and offensive operations. The first phase involved the imposition of an embargo on Iraqi shipping that was carrying important supplies to their forces in either Kuwait or Iraq itself. Such operations are complex and possess considerable risks in terms of generating an inadvertent 'international incident' in the course of checking ships, prior to the formal opening of hostilities. The creation of an effective embargo requires the ability to challenge merchant ships and, if necessary, board them to verify that no contraband was being carried. According to Air Chief Marshal Sir Patrick Hine,

> The imposition of a ban on the movement of commodities into or out of Iraq/Kuwait by United Nations Security Council Resolution 665 shifted the objectives of the ARMILLA patrol ships from the protection of British entitled merchant shipping to the enforcement of the UN sanctions. The success of this endeavour depended upon the close co-operation of naval forces in the Multi-national Maritime Force, provided primarily by thirteen non Middle Eastern nations, namely Australia, Argentina, Belgium, Canada, Denmark, France, Greece, Italy, Netherlands, Norway, Spain, the United Kingdom and the United States, together with those of certain Gulf States. In addition, the United States and United Kingdom provided surface surveillance from maritime patrol aircraft.[21]

As an operational zone, the Persian Gulf was divided into several areas, the Northern Gulf (marked by a line from Saudi Arabia to Iran, roughly 100 nautical miles north of the port of Al Jubayl), the Central Gulf (from the Northern Gulf to a line roughly in the middle of United Arab Emirates to Iran), the Eastern Gulf that ran from the latter point to another line just south of Dubai, the Strait of Hormuz and the Gulf of Oman. The coalition naval forces faced a difficult task if not for the fact that Iraq's merchant fleet contained approximately 140 ships[22] and many were already at sea when the embargo was announced. Co-ordinating such a collection of ships from different nations was by no means easy, especially in the light of generating acceptable rules of engagement and common procedures. Marolda and Schneller reveal the complexity of this task:

> Although each coalition naval contingent followed rules of engagement laid down by its home government, the coordinating committee established common interception procedures, delineated patrol sectors covering over 250,000 square miles of ocean, and shared operational assignments. At the first meeting, the member navies recognized that some central direction of the blockade was necessary. Most agreed that as the traditional leader of many post-World War II combined operations and the largest naval force in the theater, the U.S. Navy should serve that function.
>
> A representative from the French foreign office, however, disagreed with Admiral Mauz's suggestions for operational coordination and pressed for a separate role for the naval units of the Western European Union (WEU) nations. Only the Italian naval representative lent some support to the French diplomat. The British felt that 'political games were going on which had less to do with efficient execution of the blockade and rather more to do with eroding American domination of NATO and the newly formed Coalition.' The British and the naval representatives from other nations, particularly the Netherlands, Canada, and Denmark, followed the American lead. To resolve the problem, according to Mauz, 'we simply assigned the [WEU] countries a separate operating area, off the UAE where there was almost no intercept action.' He added, 'they were happy and the rest of us got on with the program.'[23]

The Royal Navy played a very active role in the embargo operation, challenging 3,171 merchant ships and boarding 36 in total.[24] Checking a suspected merchant ship involved contacting that ship by radio and then either boarding the vessel by small boats or landing boarding parties by helicopter. The Royal Navy was particularly effective in both respects, using high-powered Rigid Inflatable Boats (RIB) to put sailors on board while the merchant vessel was still moving under speed or using a widely-admired rapid-roping technique (abseiling) from a hovering helicopter, usually the versatile Lynx, to put boarding parties at precise points on a ship very quickly.[25] Either method of entry posed significant risks for the boarding parties had any of the Iraq merchant ships decided to offer armed resistance. Rapid roping, in particular, required the naval helicopter to hover in a dangerously exposed position for a few minutes with the men sliding down the ropes with no recourse to weaponry while in the air. A typical procedure to overcome this particular problem was the use of two helicopters with one 'riding shotgun' and

providing fire support if necessary. The biggest problem, however, occurred if a merchant ship refused to cooperate with an escort trying to enforce the embargo, because it raised the question of how much force could be used to ensure an effective blockade. One example is revealed in the *London Gazette* concerning the Iraqi merchant ship *Al Wasitti* on 7 October 1990:

> The AL WASITTI boarding began with a conventional challenge on VHF radio channels by HMS BATTLEAXE but the freighter, rather than reply to repeated requests to stop, increased speed and ignored all communication attempts. This prompted the SAC [Scene of Action Commander], in close consultation with the Ministry of Defence, to implement the next level of the Rules of Engagement, which permitted the firing of shells across the bows of the vessel. Despite this measured escalation in the use of force, the AL WASITTI refused to co-operate and Royal Marine boarding teams from HM Ships BATTLEAXE and LONDON were inserted by helicopter before a United States search team boarded by RIB; the ship was then cleared to proceed.[26]

This incident reveals an enormous amount of information about the rules of engagement but also the levels of autonomy allowed to the Royal Navy when implementing an ostensibly innocuous operation such as enforcing an embargo. Calling the Ministry of Defence to determine whether or not to fire a shot across the bows of a merchant ship could be described as a lack of trust in either the judgement of the senior officer of HMS *Battleaxe* or that of the Senior Naval Officer, Middle East, Commodore Paul Haddacks (at that particular stage of Operation Desert Shield). In either case, circumventing the lower levels of decision-making can be described as a form of micromanagement of remarkable proportions whereby a senior officer at a desk in Whitehall or at High Wycombe makes the decision to pull the trigger on a gun (small-calibre as well – Type 22 frigates such as HMS *Battleaxe* did not possess a 4.5-inch gun) over 6,000 miles away. Such operating procedures were also counter-cultural in the sense that naval officers from the start of their careers are trained to make decisions on the spot. Here, however, two senior officers had to defer their judgement to yet another higher level of management located on a different continent. A more un-Nelsonian scenario could not perhaps be envisaged and it reflects to a degree the downside of having satellite communications that permitted this form of 'backseat driving' to occur.

Perhaps a source of the micromanagement could be attributed

to the vast and extremely complex command system that had been set up in the United Kingdom to oversee what was to become the largest British operation since the Suez crisis in 1956, and perhaps in terms of troops on the ground, one that can only be compared to deployments during World War II.[27] The official description of the command set up in the United Kingdom suggests that

> This Joint Headquarters had the great advantage of being largely self-contained with the battle staff, which numbered some 500 people per shift at the height of the conflict, working with the support of full administrative and catering facilities within the complex. I organized the staff into three tiers: functional cells, the Battle Management Group (BMG) and the Command Group. There were 32 functional cells, each responsible for a specific area of the Operation. They reported to ten Assistant Chiefs of Staff at the 1-star level who then met twice daily as the BMG, which was chaired by the 2-star Director of Operations (DOPS). I led the Command Group meetings, which followed on from the BMG meetings, when I was briefed by the DOPS and selected members of the BMG, was given advice from the senior representatives of each Service, and took decisions or gave direction. This structure proved to be resilient and efficient; and I knew that I was receiving the most timely, reliable and relevant information on which to plan the British contribution to the Coalition effort.[28]

The Joint Headquarters was one of the most sophisticated command centres in existence with excellent C4I (Command, Control, Communications, Computers and Intelligence) facilities, but perhaps, in combination with the comprehensive system of functional command, was excessively baroque in nature. Such a high-technology command and control network would inevitably encourage any junior commander with access to the 'net' to refer back to more senior commanders when making an important decision. A wrong move or action by such people would always leave them open to the charge that they had no excuse not to refer back to the system. In this case, naval officers, to a greater degree than Army officers and Royal Air Force officers, would be more vulnerable to such indictments because while at sea, they were never away from a communications access point. The warship was always in contact, through the satellite communications revolution, with the headquarters back in the United Kingdom. Technology in this sense was as much an inhibitor of autonomous

actions as it was a facilitator through the reception of critical theatre-relevant information.

The flipside to this technological coin was that senior officers in High Wycombe, of whom many were senior in rank to the lowly Commodore in the Persian Gulf, now had the ability to influence actions in-theatre as well if necessary. Culturally, such technological links had significant implications because all military officers will ultimately defer major decisions to the most senior officer available and, with a state-of-the-art command headquarters such as High Wycombe, the potential for passing decisions 'up the line' was theoretically limitless. Two other factors complicated this system even more: first, the miracle of modern communications made the possibility of information overload a real possibility. Commodore Craig admitted that he was handling '800 signals' on a daily basis in December 1990,[29] which was a huge amount of information for one officer to try to co-ordinate with a staff of 17 jammed into a Type 22 frigate, HMS *London*, that 'could really only cope with half that number'.[30] This was another operational consequence of not having an aircraft carrier in the Persian Gulf, because they were designed to operate as command ships with the requisite communications and space for the additional staff. The conditions for the most senior British naval officer and his staff on board the frigate were by no means ideal:

> Some ship's officers had been evicted from their cabins to provide sleeping accommodation for my more senior staff, an inevitable move but not one conducive to harmony. I inherited the accommodation arrangements of my predecessor who had rejected the traditional commandeering of the Captain's living quarters and had banished himself to a tiny cabin, one deck down. It was spartan – six foot square with no shower and a main passageway outside the sliding door. I had to accept its remoteness, use Iain's, [the Captain] shower and try not to invade him whilst he had callers. Although I am not a great one for privilege and self-indulgence, there was no doubt that the arrangement was a lousy compromise for a one-star officer commanding many ships on the brink of war.[31]

These cramped quartering arrangements do raise the question of how such primitive living conditions influenced the stress levels of commanders in demanding decision-orientated positions. Secondly, the volume of information traffic was significantly augmented by the demands of working in a coalition, especially with the United States. The six carrier battle groups of the US

Navy alone generated huge amounts of daily signals, and even within the American armed forces there were difficulties in simply exchanging vital planning information. The dissemination of the Air Tasking Order from the US Air Force within Central Command to the US Navy could not be done electronically because of a lack of the right equipment on board the ships. That meant that hard copies of the ATO, about the size of a telephone directory,[32] had to be sent across to the US Navy each day.[33] In broader terms, the enormous scale of the coalition effort meant that the level of communications support would have to be equally gigantic. Surprisingly, despite the fact that the Royal Navy had worked with the US Navy for decades in NATO, the British flagship in the Persian Gulf had to borrow communications kit from their allies in order to have 'secure' transmission facilities.[34] Cordesman and Wagner provide a startling insight into the size of the coalition's communications network:

> By mid-January, 1991, the Coalition's communications systems, and the connectivity between the various elements of Coalition forces and their military services, were more advanced than that of NATO. In fact, by November, 1990, US experts estimated that 'there was more strategic connectivity (circuits, telephone trunks and radio links) in the area of operations than in Europe'.
>
> At the peak of Desert Storm, a wide mix of different types and generations of command and communications equipment had been coordinated into an architecture that could handle a peak of 700,000 telephone calls and 152,000 messages per day with a mix of communications and other emitters involving over 35,000 frequencies. The sheer scale of the C^{4}I operation is also indicated by the fact there were more than 2,500 joint circuits and more than 7,500 high frequency, 1,200 VHF, and 7,000 UHF radio nets.[35]

The volume of traffic was unprecedented in history yet the British high command insisted that the Royal Navy cope with this phenomenon with the lowest possible ship-based capabilities. This was, perhaps, a misguided reflection articulated in political circles that the Royal Navy's role in the forthcoming offensive was much less than that of the other two armed forces. One senior officer found the comments of the visiting Armed Forces Minister Archie Hamilton who remarked 'in the presence of the captain [RFA Argus] and several sailors – that he did not see the part that the Navy would play if it came to war',[36] symptomatic of this

general misapprehension. Operational reality in the waters of the Persian Gulf clearly did not match the strategic perceptions in Whitehall.

The second phase of operations marked the shift from Operation Desert Shield, the massive build-up of coalition forces in Saudi Arabia to Operation Desert Storm, the military offensive to liberate Kuwait. Air operations against targets in Iraq and Kuwait would start in the early morning of 17 January (local time) and, unlike the majority of land units that would wait until the initiation of the land campaign approximately a month after the start of the air offensive, the naval forces were heavily involved from the outset of hostilities. In addition, the Royal Navy and the US Navy were the only two coalition naval forces operating regularly in the most dangerous sector of operations, the Northern Gulf,[37] throughout the entire range of activities encapsulated in Desert Storm. The Royal Navy's ships in the Persian Gulf, under the nebulous designation Task Group 321.1, offered a wide range of different offensive and defensive capabilities that included

> four air defense destroyers, four ASW frigates, two MCMV command ships, five mine countermeasure vessels, three tanker/supply ships, two ammunition stores ships, one casualty receiving ship, and four logistic landing ships. A total of 12 Sea King Mark IV helicopters were assigned to the 1st British Armoured Division on November 29, 1990, and were operational in theater by January 5, 1991. The Royal Navy's key combat ships included:
>
> - Three Type 42 destroyers, each armed with a twin Sea Dart surface-to-air missile launcher, 1 Lynx ASW helicopter, two three-rail anti-submarine torpedo tubes (ASTTs), and one 114mm gun. One of these ships, the HMS *Gloucester*, achieved the Coalition's only kill of an Iraqi anti-ship missile.
> - Five Broadsword-class frigates, each armed with four MM38 Exocets, 2X6 Sea Wolf surface-to-air missiles, two three-rail ASTTs, and two Lynx ASW helicopters. (Helicopters from these ships, armed with Sea Skua air-to-ship missiles either damaged or sank at least 10 Iraqi vessels.)
> - One Leander-class frigate armed with four MM38 Exocets, 2X6 Sea Wolf surface-to-air missiles, 1 Lynx helicopter, and two three-rail ASTTs.
> - Five Hunt-class minesweepers.[38]

Despite the absence of a major capital vessel, the Royal Navy still offered a considerable amount of disposable naval power and a significant punch to the coalition assets in the Northern Gulf. The tasking of the air-defence destroyers was extremely flexible to fit in with the needs of the more powerful carrier battle groups and at one stage were providing 'nearly 40 per cent of the forward air defense coverage for US carriers and battle groups'.[39] Working within a naval coalition meant that at times, the control of British assets was transferred to US Navy commanders who had overall responsibility for a particular area. Commodore Craig provides an insight into how this scheme worked at sea:

> the United States Navy and myself agreed in the course of December that the tactical control of the two Type 42 destroyers would be passed to them at a late stage of tension so that they could be fully integrated in their front line of defence for the carrier battle groups. Indeed that happened, and I think worked well. As you are well aware, in this august body, the contribution of the Sea Dart and the Phalanx close-in weapon system back to back with the ability to control combat air patrols, fighter escort over the top of the force, all of these the Type 42s contributed to most roundly. In addition, of course, they were in the optimum position to make use of their flight decks with the Lynx/Skua.[40]

The smooth integration of the Royal Navy's ships with the US Navy's larger formations perhaps reflected the good working relationship between Commodore Craig and Vice Admiral Stanley Arthur. Interestingly, both men shared subcultural specializations as aviators[41] that undoubtedly facilitated a common vista concerning future operations. The choice of a pilot as the commanding officer of the British forces proved to be particularly valuable as many of the key US commanders were either former aviators or in charge of carrier battle groups, Certainly, his meetings with other commanders like Rear Admiral Dan March, based on USS *Midway* and CTF 154 (Commander Task Force) of Battle Force Zulu in the Persian Gulf proved to be extremely fruitful for the Royal Navy. Both American Admirals were very happy with the integration of the Royal Navy air-defence destroyers and the capabilities that they brought to the coalition forces.

The shooting down of a Silkworm anti-ship missile (a Chinese copy of the Soviet Styx missile) on 25 February by HMS *Gloucester* was one of the famous incidents of the naval side of the Gulf War

and confirmed the confidence of the US forces in integrating the Type 42s into their battle formations. The official citation in the *London Gazette* reads:

> As our ships approached within 10 miles of the coast, the threat from enemy shore defences was of increasing concern and early on 25 February HMS GLOUCESTER detected on radar a fast-moving contact leaving the coastline 21 miles to the west. In less than a minute, the ship's Operations Room team swiftly assessed the contact as a Silkworm missile, posing a direct threat to allied naval units including the US battleship nearby, and fired two Sea Dart surface-to-air missiles which destroyed the incoming Silkworm.[42]

Popular accounts of this incident suggest that the missile was heading straight toward the battleship USS *Missouri* but in fact it was flying overhead when it was struck and was probably going to overfly this immediate group of ships and head seawards toward other ships.[43] In addition, the command crew of HMS *Gloucester* were very worried (until the missile strike had been confirmed later) that their Sea Dart missiles had engaged a coalition aircraft in error.[44] General de la Billiere's account of this engagement also reveals that HMS *Gloucester's* 'Phalanx' gun had inadvertently at the same time 'sprayed a couple of rounds into the USS *Missouri*, fortunately without causing casualties'.[45] Nevertheless, despite a few problems, the destruction of the Silkworm was a tremendous success for the Royal Navy, particularly in view of the fact that the missile seeker had not been activated[46] and therefore could only be spotted quickly (in the absence of a visual sighting) by keen observation of a radar screen in the early hours of the morning by a junior seaman.

The performance of the Sea Dart missile was very gratifying for the service as a whole given the amount of attention this missile had received during the Falklands Conflict. An important report after the South Atlantic campaign had noted that

> The known weaknesses of Sea Dart – including its relative slowness and certain limitations of its radar – would have been remedied had the Sea Dart Mk II improvement programme, cancelled in 1980–81, gone ahead, although the modernized Sea Dart would not have been available at the time of the Falklands campaign. The programme was cancelled for reasons of cost and on practical grounds; the MoD has now instituted a new programme of improvements to Sea Dart which will give it an anti-missile capability, while enhancing its anti-aircraft performance.[47]

The Sea Dart missile that hit the Iraqi Silkworm had been modified in the light of the Falklands campaign in order to tackle this type of specific threat.[48] Its warhead, in particular, was ideal for these targets, being an 'expanding-rod variety' that 'scissor out as they explode, chopping their target to pieces'.[49] The destroyed Silkworm confirmed to the Royal Navy that certain practical lessons of the conflict nearly a decade earlier had been learnt well and now were being applied effectively against targets in the Persian Gulf. However, it was not just lessons of the Falklands that were being applied against the Iraqi forces, as the relatively long preparation period during Desert Storm had necessitated certain improvements in equipment (especially communications) for the ships of Task Group 321.1, the cost of which worked out to be worth about £4 million for each major surface vessel.[50] The key naval officer who approved all of these additions in the Ministry of Defence was the highly experienced and capable Rear Admiral Sam Salt who knew more than most the dangers of operating in a hostile missile environment.[51]

AIR WARFARE

In the absence of an aircraft carrier and the versatile Sea Harrier multi-role jump jet, British naval helicopters in the form of the Lynx armed with the Sea Skua missile were the aerial offensive arm of the Royal Navy. The conditions in the Persian Gulf did not lend themselves toward traditional surface-ship warfare, as the enemy was comprised of quite small patrol craft (with reduced radar signatures) and belts of minefield that precluded a significant amount of independent movement without the assistance of mine-countermeasure vessels sweeping channels ahead. Furthermore, in view of the air threat, the Royal Navy pushed its Type 42 destroyers ahead of other assets and this warship possessed limited anti-ship capabilities apart from its 4.5-inch gun, and its main weapon, Sea Dart, was primarily an anti-aircraft/missile system. The Type 22 frigates with the dedicated Exocet anti-ship missile were kept back from the front line but again the range of this missile was limited (just over 20 miles) and designed for bigger targets. The limited parameters of this operational environment placed greater weight on the activities of naval air assets. Royal Navy helicopters operating from escort vessels performed a wide range of tasks from reconnaissance missions in excess of a hundred miles ahead of the

mother ship to routine tasks such as delivery of stores, mail and passengers, search and rescue for downed pilots and offensive anti-ship missions. The variety of missions posed different challenges to the aircraft's combat team of pilot, observer and occasionally crewman in the back of the aircraft. During the Gulf War, the British Lynx helicopter armed with the Sea Skua missile offered a capability that the more powerful US Navy did not possess. Cordesman and Wagner note of this combination that:

> They are also an example of a case where another Coalition state had better weapons and technology than US forces. Although the US Navy had purchased the Norwegian Penguin missile, it had not armed its naval helicopters with the system. In contrast, the Royal Navy Lynxes were equipped to carry out an autonomous search for targets with their Sea Spray radars and engage outside the air defense range of most patrol boats and FACs [Fast Attack Craft]. The Sea Skuas also had four preprogrammed flight profiles and semi-active seekers so that Lynx could maneuver freely after firing. They were fitted with special long range thermal imaging systems for night warfare, an integrated Doppler radar and GPS for accurate navigation, .50-caliber machine guns, and a mine-hunting video camera system designed to find mines near the surface yet remain invisible to the eye.[52]

In the Persian Gulf, it was found that the Lynx working in combination with the US SH-60 helicopter that possessed 'a superior radar'[53] proved to be an excellent partnership of complementary technologies with the latter aircraft acting as a forward air controller, so too in concert with the US Marine Cobra AH-1 attack helicopter, if the target did not merit a relatively expensive Sea Skua missile.[54]

The Royal Navy benefited during operations in the Persian Gulf from a significant accumulation of experience using light helicopters against relatively small surface-based targets, prior to the outbreak of hostilities. The Lynx/Sea Skua combination was a war-proven weapons system having seen considerable use during the Falklands Conflict in which it had 'scored eight hits with eight firings, seriously damaging one patrol craft and sinking two other Argentine ships'.[55] Commodore Craig also highlighted the usefulness of NATO exercises in fine-tuning his naval pilots and the ideal conditions that presented themselves during the Gulf conflict:

> With regard to the Lynx/Skua direct operation, once by itself with a target it worked exactly as we are used to working it

> yearly in the Bold Game exercise and other NATO involvements. With regard to targets, we had the benefit that we were taking contacts in the main that were virtually to specification for Skua, namely, a self-defensive system which lay with its envelope inside the Skua range, allowing us to stand off and attack with relative impunity – and a surface clearance above the water that allowed the Sea Skua to enter and take out the key positions like the engine rooms, bridge and command centres. The only time that was not the case and, as a result, did not work quite so well – and I know you are familiar with this from your briefings – was the Khafji incident where there were some 17 small craft providing troops in an outflanking supply effort: the BRAZEN and the CARDIFF aircraft (I believe it was) engaged those. I think we have evidence there that the very shallow draught (of these vessels) was marginally above the skimming height of the missile and that was because we were attacking something well below its intended scale of target activity.[56]

In general, the combination of experience and optimum conditions for the naval helicopters armed with anti-ship missiles provided the Royal Navy with an opportunity to use these assets to the fullest extent. Another factor that facilitated the employment of helicopters in this role was the virtual absence of airborne threats posed by the well-armed Iraqi Air Force, apart from one incident on 24 January when two Iraqi Mirage F-1s, threatening coalition ships, were shot down in a model engagement by a Saudi F-15C. Even without the timely intervention of the Saudi Air Force, the raid was easily picked up by the coalition airborne early warning aircraft (AWACs) and had that air cover failed then the Mirages had to face both Type 42 destroyers and the USS *Bunker Hill* that would have proved difficult for the aircraft to elude. Without the threat from supersonic aircraft to which helicopters are normally very vulnerable, the Northern Gulf proved an ideal operating area for these highly versatile weapons platforms.

The most notable use of the Lynx/Sea Skua missile occurred during the so-called 'Bubiyan Turkey Shoot' when an assortment of Iraqi vessels were caught by coalition aircraft in open water between 29 January and 2 February. A good account of this engagement is provided by Lt-Gen. Sir Peter de la Billiere:

> For day after day Iraqi fast patrol boats tried to break out of their hideouts between Bubiyan Island and the mainland, to go to the aid of their land-based colleagues attacking Khafji.

> The most dangerous craft were the TNC 45s, with Exocets on board, which had been captured from the Kuwaitis, but the Iraqis also had Russian-built Osas, armed with Styx missiles, which were very effective against surface targets, and vessels with lower capability known as Zhuks. For day after day Royal Navy Lynx helicopters flew low-level, long-range sorties in poor visibility against these elusive targets, supported by fixed-wing aircraft from the American carriers and shore-based squadrons. The battle reached its climax on 29 and 30 January, when helicopters from *Gloucester*, *Cardiff*, *Manchester*, *London* and *Brazen* used our two forward destroyers as stepping stones, landing on them to refuel and bouncing off again for their continued attacks. The final tally of kills was slightly uncertain, after helicopters had been wheeling and diving in repeated assaults, but we reckoned that eighteen of the twenty-five Sea Skua missiles fired by Lynxes hit their targets, that seven vessels were sunk by them, that hits were registered on a number of smaller ships and that, in all, twenty-five per cent of the Iraqi navy was destroyed. The extended action was extremely taxing for the Lynx crews, who maintained flying rates about three times their normal, but their success was outstanding.[57]

The reason why the Iraqi Navy exposed themselves in such a fashion is uncertain. Certainly, during the first day of the operation it looked as if they were going to support the land forces and then after that, the Iraqis decided (perhaps like the Iraqi Air Force) to make a dash for Iran. The upshot of the manoeuvre was almost total devastation and by 8 February, the coalition forces could publicly declare that sea control of the Northern Gulf had been achieved.[58] In operational terms, the 'Bubiyan Turkey Shoot' demonstrated that the Lynx crews quickly analysed how the Iraqi Navy was responding to their initial attacks and then optimized their attack profiles in the light of this valuable intelligence for later attacks. In the early stages of the battle, the Royal Navy's Lynx helicopters had been armed with just two Sea Skua missiles and an ALQ-167-V 'Yellow Veil' jammer but, in light of the poor Iraqi countermeasures, the Lynx crews replaced the heavy jamming equipment with two extra missiles.[59] As two analysts of this battle have remarked:

> As a result, Lynxes began to attack on the second day with additional missiles instead of jammer pods. The electronic support measures on the Iraqi TNC-45s and FPB-57s seem to have been unable to detect the emissions of the Lynx's

> Sea Spray radar, the fact the Sea Spray's radar had obtained a fire control lock on the Iraqi ship, in time to initiate countermeasures before the Sea Skuas struck. In contrast, the Lynxes could use their Orange Crop electronic support measures to obtain warning of a possible lock-on by the Iraqi ships and could break the Iraqi radar contact by simple manoeuvers without losing their ability to fire the Sea Skua.[60]

Good command, control, communications and intelligence (C^3I) procedures allowed the Royal Navy to respond in the most effective manner to the unexpected scenario of the Iraqi Navy making a questionable military decision to run for safety (Iran) in daylight that most other military forces would have considered suicidal. Destroying a quarter of the enemy's surface-ship capability was a fitting reward for this responsive use of naval helicopters and anti-ship missiles as well as achieving an impact far out of proportion to the size of the Royal Navy in comparison to the much bigger US Navy.

The downside to this intensive use of naval helicopter was the immense fatigue levels that it generated among the flying crews and their support personnel. The official citation of the Gulf War reveals that 'Lynx helicopters from Royal Navy escorts flew nearly 600 sorties in the northern Gulf on search and interdiction operations against Iraqi naval units'.[61] This figure is simply staggering and reflects a similar situation that had occurred during the Falklands Conflict of pilots and aircrew being dangerously overworked. Unlike during the South Atlantic campaign, the commanding officer of the British naval task group was a pilot himself and recognized symptoms of excessive flying fatigue:

> In the aftermath of the 'Battle of Bubiyan', as the Americans proposed it should be called, several aircraft conducting low-level reconnaissance along the Kuwaiti coast were fired upon by shore AA batteries – including a surface-to-air missile launched at Lieutenant Commander David Livingstone, the aggressive Flight Commander of *Gloucester*. Overconfidence following success in battle amongst our aviators – 'the immortality syndrome' – prompted me to issue a directive calling for more prudence. I had no desire to see young lives squandered needlessly. On one of my flying visits to the destroyers, I was also disquieted to see the effects of the high work-rate upon air and ground crews; flying rates were by then four times those of peacetime. I

> encouraged both Adrian Nance [Commanding Officer, HMS *Cardiff*] and Philip Wilcocks [Commanding Officer, HMS *Gloucester*] to give their crews a short stand-down.[62]

This incident is revealing because by giving an order, Commodore Craig was actually micromanaging an issue that the command staffs on board the destroyers should have tackled at a much earlier stage. A dangerously tired aircrew is a problem for the entire ship with the propensity for accidents whether at sea or during take-off (when fully loaded with fuel) and landing being naturally much higher. In addition, it begs the question of whether subcultural divisions between the minority pilots/observers and the majority surface-warfare officers is at the heart of the recurring problem. Piloting an aircraft and driving a ship demand very different levels of concentration. The former is totally dependent on the individual whereas the latter is a team effort. Furthermore, the consequences of a minor accident can be catastrophic for a light aircraft and its crew whereas the level of danger for a ship is considerably less unless it sinks. Operational planning of air sorties must have strict limits even in times of conflict with a recognition that the peacetime rates reflect genuine safety concerns which cannot be totally abandoned in war. During the recent Gulf War II, the most disturbing incident for the Royal Navy was the collision of two AEW Sea King helicopters (the eyes of the fleet) which literally flew into each other. It begs the question (that will undoubtedly be scrutinized at the inquest) as to whether pilot and crew fatigue was a factor in the crash.

Another cultural facet of this phenomenon that stems from the institution itself could be that the desire to close with the enemy, which because of the minefields was at that stage only possible through aircraft, was clouding the judgement of those tasking the aircrews. Can Nelsonian warfare be fought through a small collection of Lynx helicopters? A shortage of resources in this case did not stop naval officers from throwing everything at the enemy, but at what cost to the pilots and observers? Alternative options also existed, such as equally capable assets from within the coalition forces, particularly the strike aircraft from the massive US aircraft carriers that could have been tasked to deal with the Iraqi surface ships. Either way, as a recurrent theme in both the Persian Gulf and the South Atlantic, it is an area that if not addressed will inevitably lead to more accidents and casualties. The presence of an *Invincible* class aircraft carrier, however, would have reduced the strain on the overworked Lynx pilots in the small task group in the Persian Gulf. Sea Harriers could have engaged many of the escaping Iraqi vessels

and cut down dramatically the need to keep helicopters in the air to press ahead with the attack. Other larger helicopters, like the Sea King airborne early-warning helicopters as well as transport helicopters that are carried by the aircraft carrier would also have reduced the Lynxes' workload. The use of naval helicopters in the Persian Gulf was tremendously successful and the Sea Skua, once again, demonstrated its worth, but for a heavy price in terms of the high levels of fatigue for the air/ground crews of the escorts.

MINE WARFARE

The threat posed by Iraqi mines dominated coalition naval plans to conduct inshore operations using the powerful US Navy's battleships to give naval gunfire support (NGS) to the advancing land forces along the coastal route from Saudi Arabia to Kuwait. These ancient mariners in the form of USS *Missouri* and USS *Wisconsin* offered extremely accurate fire support using Pioneer unmanned aerial vehicles (UAV) to direct the one-ton, 16-inch shells[63] toward their intended targets with devastating effects. Mine warfare, however, was an area of naval operations that had received less investment and attention in the US Navy than other more glamorous facets of the service such as the carrier battle group concept. According to some commentators,

> The US Navy had significant problems in dealing with the Iraqi mine threat. Although the US Navy had begun to improve its mine warfare capabilities as a result of its experience in dealing with Iranian mines in 1987–1988, it still had relatively limited capabilities at the time of the Gulf War. The scale of the improvement in US capabilities was also unsuited to the demands of regional warfare. While its experience during the Iran–Iraq War should have been a lesson that it needed to improve its minesweeping and countermeasure capabilities, the US Navy still planned its force structure around a European war where its NATO allies would take on the main burden of mine-countermeasure (MCM) activities.[64]

In contrast, the Royal Navy had invested heavily in mine-countermeasures technologies and training for its sailors in this most specialized area of naval warfare. Inevitably, this advantage would see the British naval forces taking 'the lead in most of the

mine countermeasure operations during Desert Storm'.[65] Planning for the future mine-clearance operations to open up safe channels for the US battleships was, however, one area of cooperation between the Royal Navy and the US Navy that led to some friction between senior planners. The problem arose when the US Navy revealed their plans to their NATO allies in late January on how they envisaged getting the battleships through the minefields. Commodore Craig's memoirs are particularly revealing concerning his impression of the American concept of operations:

> The plans which followed struck me as so ill-conceived and immature that I could not believe that the USN had been their architect. Around me the mood changed rapidly to one of similar incredulity, not least among the senior USN officers. We were apparently to move north in a combined group as early as 4 February, with my minehunters leading the way. We were then to advance through the Iraqi minefields, whose position and density were frankly unknown, at an unrealistic speed for precursor mine detection to within 4 miles of enemy gun, missile and rocket-launcher positions. There the minehunters were to commence their clearance operations at dead slow speed in full daylight under the admiring gaze of the enemy. When sufficient water had been cleared, the battleships would come close in behind the hunters, commencing bombardment of enemy positions prior to 'possible' full-scale amphibious assault.[66]

This initial plan was discarded due to the many objections from both British and American officers and in the light of a strategic decision on 2 February by the overall coalition commander, General Schwarzkopf, who felt that the damage caused to the Kuwaiti mainland by an all-out amphibious assault was not worth the effort, as an assault up the coastline by the US Marines with coalition forces could achieve the same desired result without the massive destruction.[67] Another factor that had to be taken into account was the extent of the Iraqi defences along the Kuwaiti coastline that were extremely formidable. Cordesman and Wagner reveal that Iraq's 'planned density of its minefields covering the shore was 60 per nautical mile, at a depth of 10–40 feet, an additional 600–1,600 per nautical mile at a depth of 0–10 feet, plus 3,200–6,400 anti-personnel mines on the beach'.[68] In reality, Iraq never managed to achieve this aim; but nevertheless, had US Marines made it through the significant numbers of mines

that had been emplaced, then they would still have had to deal with dug-in tanks and prepared defences on the shoreline. An amphibious operation would have been quite expensive in terms of casualties and destruction to the small country that the coalition forces were trying to liberate, and Schwarzkopf was well aware of these unwelcome facets of such an undertaking. However, even discarding the amphibious assault, the battleships would still be required to go inshore to provide essential naval gunfire support.

The new plan to open up cleared channels of water for the battleships adopted a more practical and cautious approach to the problem of the minefields that were arranged in dense belts across the coastline of Kuwait with lines of mines behind these forward obstacles. Another problem, whether by intention or by accident, was the phenomenon of drifting mines as well. The method of opening up the minefields was in essence quite a direct approach, as one naval officer has commented:

> We would cut a 2,000-yard-wide approach lane from a starting point well to the east and hopefully outside the offshore limit of the minefields. US helicopters would carry out exploratory operations ahead of the Hunts and USS *Avenger*, who would sweep, then hunt, by day and night until a clearance of 80 per cent was achieved. Next, helicopters and Hunts would clear a 10 by 3 mile rectangle of swept water for the battleships to bombard the shore – and as a possible platform for amphibious assault. Smaller boxes would then be cut towards the coast, taking the battleships' gunfire further and further into Kuwait.[69]

On paper it looked simple enough, but in practice the coalition forces encountered many difficulties, not least of which when two major warships, USS *Tripoli* and USS *Princeton,* suffered mine strikes on 18 February. USS *Tripoli*, a 20,000-ton Landing Platform Helicopter (LPH) that was the floating base for the minesweeping helicopters, hit a moored mine that punched a 20- by 30-foot hole in the ship.[70] Good damage-control measures allowed the vessel to keep operating. The significance about the first hit was that it was outside the anticipated (from intelligence) belt of minefields. The strike on USS *Princeton* occurred within the minefield belt and was caused by a more sophisticated Manta (acoustic/magnetic bottom mine) whose explosion set off another mine nearby as well. The damage to the cruiser was extensive: cracked superstructure, severe deck buckling, flooding, fires, with damage to the rudder and propeller shaft.[71] Again, excellent

damage-control procedures kept the ship operational for a time but eventually it had to be withdrawn from the operational area for repairs. One analysis of this difficult day for the coalition naval forces suggests that

> These incidents illustrate the risks of mine warfare and the fact that the Coalition had severe problems in characterizing Iraqi minefields and detecting the presence of minefields. They also reflect the cost of the lack of intelligence priority and coverage given to mine warfare before the war. The mine countermeasure force had to operate with limited knowledge of Iraqi minelaying operations, on the basis of one observation of one Iraqi merchantman moving through the area. As a result, intelligence had concluded that the Iraqis had laid their minefields closer to the coast and that the entire Coalition MCM force had passed through the first minefield, and had begun work on clearing the second, without ever having detected the first minefield. When the *Tripoli* and *Princeton* were struck, the Coalition was forced to move the entire operation 24 miles to the east and resume operations in a new area.[72]

The mine strikes on the American ships raised considerable concerns among the British forces because their ships were not as sturdy as those of the US Navy and the consequences would have been far more catastrophic if any of the Royal Navy's ships had suffered a similar fate.

A source of much of the success of the British Hunt-class mine-countermeasure ships was the excellent support facilities that they enjoyed from other British units such as the hydrographic ships, HMS *Herald* and HMS *Hecla*, that acted as command and control platforms. In addition, RFA *Sir Galahad* provided much-needed logistical support throughout the inshore campaign.[73] Having a ship of this size, 8,500 tonnes[74] with an available flight deck meant that essential repairs and resupply could be carried out at sea without interrupting the operational status of the 'much-in-demand' Hunt MCM vessels. The perils of floating mines also required new equipment for Royal Navy ships in the form of night sights and DEMON mine-detection cameras for the helicopters to spot mines on or near the surface either at night or in difficult sea states.[75] The risk of being holed by a floating or an undetected bottom mine placed a great deal of stress on the crews of the ships as well. A senior naval officer has remarked about this peculiar pressure:

> Once we engaged in war I think the only surprise (and it was a very stark surprise to me) was the debilitating effect upon

> people's readiness and people's peace of mind posed by the floating mine threat, which I think was a surprise to us all. A very large piece of ocean, but a very uncertain number of threats afloat in it. By night the feeling that you had no way of knowing precisely what you were about to impact upon is a very wearing process for a group of sailors spending many days and nights in that environment. That indeed was a surprise to me, and one that should not have been if I had anticipated that floating mines would have been used.[76]

Dealing with a floating-mine threat at night was a new tactical environment for the Royal Navy for which there was little written down procedurally as to what was the best way for a warship to operate. Some ships deliberately 'drifted' with the current at night, others were uncomfortable with the thought of not having the power to manoeuvre around a mine if one were detected at the last minute.[77] It was new operational territory for the Royal Navy of the 1990s and an area that Commodore Craig left to the discretion of each individual commanding officer of his task group.[78] Overall, the Royal Navy's contribution to the coalition mine-countermeasure operations can be described as essential in every respect and it was typical at the end of hostilities that the first ship into Kuwaiti port of Ash Shu'aybah was the Hunt-class MCM vessel, HMS *Cattistock*.[79]

GENDER, SUBMARINES AND SUPPORT SHIPS

The Gulf War was a revolutionary campaign for the Royal Navy in the sense that it was the first time that women were deployed at sea in a combat environment. Twenty-four women of the Women's Royal Naval Service (WRNS) saw active service on board the Type 22 frigate, HMS *Brilliant*.[80] For the institution, the recent introduction of women at sea had generated a great of deal of controversy in terms of the explicit break with tradition with many questions being raised as to how it would influence combat efficiency and the daily life within a normally all-male ship's company. In response to direct questions from the Defence Committee about this issue, the commanding officer of the British naval forces noted:

> They were fully integrated in the work-up. I have direct feedback, indeed, I made a point myself when I visited BRILLIANT when she arrived in theatre – they produced

> exactly the same quality of performance as did their male peers, and when I visited the ship just short of the front-line in February I found very high morale and a great belief that they could do the job infinitely better than all men, of course.[81]

As far as the Royal Navy was concerned the introduction of women at sea in a combat environment revealed no differences to the performance of men. The threat from floating mines and shore-based anti-ship missiles was the same for both genders but, unlike during the Falklands Conflict, no British ship endured catastrophic damage. The question still remains not of how women will cope *emotionally* with the test of war but rather how they will deal *physically* when surrounded by wounded men that need to be moved from damaged lower decks to undamaged upper ones by ladder and brute force. As such, the Persian Gulf War answered many of the questions about the role of women on the front line at sea, but not all of them.

The Royal Navy deployed two diesel-electric submarines to the region, HMS *Opossum* and HMS *Otus*, in an environment that has traditionally been perceived as an area unsuited to submarine warfare due to the shallow water. Official reports about the activities of the submarines are noticeably reticent about their activities. Commodore Craig, when questioned about them, merely added that they 'did in fact make a contribution of a kind to Operation Granby; beyond that I do not believe I am in a position to comment'.[82] American sources are more forthcoming and suggest that British submarines 'carried out covert missions'.[83] The reluctance of the British authorities to talk about the role of the submarines fits well within the almost universal non-committal reply when dealing with issues that relate to British Special Forces that is still apparent today. A recent publication about the Special Boat Service or SBS (naval Special Forces) who are specifically trained to operate from submarines suggests that at one stage of the planning process of Operation Desert Shield, consideration was given to infiltrating them into Kuwait to rescue British hostages taken by the occupying Iraqi forces.[84] Fortunately, Saddam Hussein decided to release all the hostages prior to the outbreak of Desert Storm so that there was no need for such operations. However, it is not inconceivable that the submarines inserted reconnaissance parties along the coast of Kuwait at various stages of the campaign.

A major concern of the Defence Committee after the Gulf War was Britain's dependency on foreign shipping to transport bulk cargo to the Middle East which contrasted sharply with Operation Corporate in the South Atlantic:

> We are not happy with the almost total absence of UK shipping from the lists of ships providing the sealift for Granby. Few UK shipping companies apparently offered their services: we have, however, had correspondence from one British line where offer of an apparently eminently suitable ship . . . was refused. The absence of UK shipping may simply demonstrate the healthy commercial state of what remains of the UK Merchant Navy, which is busy in all corners of the world, rather than being unduly available for hire. As we have observed in the past, UK shipowners do not seem enthusiastic to charter their ships for military exercises. To that extent, the Granby sealift reflected recent exercises. MoD told us that, because the UK was not under attack, the use of the prerogative power to requisition vessels would be open to challenge. While the use of Orders in Council was apparently never considered, it is disturbing that there should be doubts about the adequacy of the powers available.[85]

The problems involved in finding British sealift for Operation Granby did reflect a wider malaise in the British merchant fleet, as it had contracted considerably since the Falklands Conflict. However, in terms of RFA support, the Royal Navy in the Persian Gulf was particularly well served with 11 ships deploying in total, providing a range of support from fuel to logistical/repair facilities. Ships like RFA *Diligence* operated within the operational environment very effectively, not only meeting the needs of British ships but, in the case of USS *Tripoli*, providing much-needed engineering support after it hit a mine.[86] The role of RFA *Argus* was also singled out for mention by the Defence Committee:

> Versatility and flexibility were also in evidence in the equipment field. The helicopter support ship RFA ARGUS, procured as an Aviation Training Ship to replace RFA ENGADINE, had one of her hangars fitted at Devonport with Portakabins, to enable her to operate as a primary casualty receiving ship, with the equivalent of an air-conditioned 100-bed hospital with an operating theatre. This designation enabled her to fulfil some military functions as well as medical ones, and to return recovered casualties to duty, neither of which are permitted to a dedicated hospital ship.[87]

The idea of whether RFA *Argus* should be a dedicated hospital ship or a military asset generated some debate initially but eventually the latter view prevailed and the British task group

was able to use the 30,000-ton ship as part of their disposition.[88] Undoubtedly, having a ship that was, on paper, twice the size of a British aircraft carrier was an extremely useful asset to the overall deployment.

In general, despite not being able to deploy a force that would have satisfied the cultural preferences of the service as a whole, particularly an aircraft carrier, the Royal Navy performed very well in the roles that were allocated to it. Fighting as part of a coalition places different demands on naval officers, especially in view of the fact that they were very much a junior partner to the much larger US Navy. Nevertheless, the Royal Navy can claim to have played a more important role than that of any of the other coalition navies which was proved in the fact that operations in the Northern Gulf were dominated by the transatlantic partnership that had worked so well during World War II as well as the subsequent Cold War. In two respects, anti-ship operations with helicopters and mine warfare, the Senior Service clearly took the lead and proved to be indispensable to the overall coalition victory in the Persian Gulf War.

NOTES

1. The Tenth Report from the Defence Committee, *Preliminary Lessons of Operation Granby*, HC 287/I (London: HMSO, 1991), para. 14, p. ix.
2. A. H. Cordesman and A. R. Wagner, *The Lessons of Modern War Vol. IV: The Gulf War* (Boulder, CO: Westview, 1996), p. 538.
3. Craig, *Call for Fire* (Leicester: Charnwood, 1997), p. 259.
4. Cordesman and Wagner, *The Lessons of Modern War Vol. IV*, p. 537.
5. Ibid., p. 745. See also S. Bergstrom Haldi, 'The Influence of Logistics on War Widening', *Journal of Defense and Security Analysis*, 18, 1 (2002), p. 6.
6. *Preliminary Lessons*, HC 287/I, para. 6, p. vii.
7. *The Statement on the Defence Estimates 1992*, Cmnd 1981 (London: HMSO, 1992), para. 420, p. 74.
8. Ibid., paras 1–2, p. 74.
9. General P. De la Billiere, *Storm Command: A Personal Account of the Gulf War* (London: HarperCollins, 1995), p. 174.
10. E. J. Marolda and R. J. Schneller Jr, *Shield and Sword* (Washington, DC: Government Reprints, 2001), p. 69.
11. A. Gordon, *The Rules of the Game* (London: John Murray, 2000), p. 588.
12. *Preliminary Lessons*, HC 287/I, para. 38, p. xxi.
13. H. Richmond, *Sea Power in the Modern World* (London: G. Bell and Sons, 1934), p. 59.
14. Craig, *Call for Fire*, p. 257.
15. See Minutes of Evidence from the Defence Committee, *The Conflict in the Gulf*, HC 287 (London: HMSO, 1991), p. 3.
16. De la Billiere, *Storm Command*, p. 115.
17. See the Second Supplement to the *London Gazette*, 28 June 1991, p. G46.
18. Ibid., p. G46.
19. Craig, *Call for Fire*, p. 306.
20. Marolda and Schneller, *Shield and Sword*, p. 139.
21. *London Gazette*, p. G39.

22. Marolda and Schneller, *Shield and Sword*, p. 88.
23. Ibid., p. 87.
24. *London Gazette*, p. G39.
25. Ibid.
26. Ibid. (Explanation added).
27. The Prince of Wales in his foreword to General de la Billiere's book suggests that Operation Granby was the biggest operational deployment of British forces since World War II.
28. *London Gazette*, p. G38.
29. Craig, *Call for Fire*, p. 325.
30. Ibid., p. 283.
31. Ibid., p. 284 (Explanation added).
32. See R. P. Hallion, *Storm Over Iraq* (Washington DC: Smithsonian Institution Press, 1992), p. 155.
33. Ibid., p. 256.
34. See *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 493, p. 61.
35. Cordesman and Wagner, *The Lessons of Modern War*, *Vol. IV*, p. 257.
36. Craig, *Call for Fire*, p. 317 (Explanation added).
37. See *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, paras 479–80, p. 60.
38. Cordesman and Wagner, *Lessons of Modern War, Vol. IV*, pp. 165–6.
39. Ibid., p. 166.
40. *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 465, p. 58.
41. Craig, *Call for Fire*, p. 310.
42. *London Gazette*, p. G44.
43. *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 472, p. 59.
44. Craig, *Call for Fire*, p. 437.
45. De La Billiere, *Storm Command*, p. 290.
46. *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 472, p. 59.
47. The Fourth Report from the Defence Committee, *Implementing the Lessons of the Falklands Campaign*, HC 345-I (London: HMSO, 1987), para. 124, p. xxxvi.
48. See *The Minutes of Evidence Taken Before the Defence Committee, The Rt. Hon. Tom King, 6 March 1991*, in HC 287/I, para. 14, p. 7.
49. Craig, *Call for Fire*, p. 436.
50. Ibid., p. 322.
51. Ibid., p. 255. Rear Admiral Sam Salt was the commanding officer of HMS *Sheffield* during the Falklands Conflict.
52. Cordesman and Wagner, *Lessons of Modern War, Vol. IV*, p. 805 (Explanation added).
53. Ibid., p. 805.
54. Ibid., p. 805.
55. *Implementing the Lessons*, HC 345-I, para. 166, p. xlvi.
56. *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 559, p. 68.
57. De La Billiere, *Storm Command*, p. 255.
58. *London Gazette*, p. G43.
59. Cordesman and Wagner, *Lessons of Modern War, Vol. IV*, p. 805.
60. Ibid., p. 806.
61. *London Gazette*, p. G43.
62. Craig, *Call for Fire*, pp. 381–2 (Explanation added).
63. Ibid., p. 388.
64. Cordesman and Wagner, *Lessons of Modern War, Vol. IV*, p. 811.
65. Ibid., p. 813.
66. Craig, *Call for Fire*, p. 375.
67. Marolda and Schneller, *Shield and Sword*, p. 254.
68. Cordesman and Wagner, *Lessons of Modern War, Vol. IV*, p. 811.
69. Craig, *Call for Fire*, p. 391.
70. Ibid., p. 411.

71. Cordesman and Wagner, *Lessons of Modern War, Vol. IV*, p. 814.
72. Ibid.
73. See *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 514, p. 63.
74. E. Southby-Tailyour (ed.), *Jane's Amphibious Warfare Capabilities* (Coulsdon: Jane's, 2000), p. 548.
75. See *Preliminary Lessons*, HC 287/I, para. 48, p. xxvi and para. 24, p. 74 respectively.
76. *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 541, p. 66.
77. Craig, *Call for Fire*, p. 395.
78. Ibid., pp. 395–6.
79. *London Gazette*, p. G46.
80. *The Minutes of Evidence Taken Before The Defence Committee, Commodore Christopher Craig, DSC, 19 June 1991* in HC 287/I, para. 551, p. 67.
81. Ibid., para. 549, p. 67.
82. Ibid., para. 475, p. 60.
83. Cordesman and Wagner, *Lessons of Modern War, Vol. IV*, p. 166.
84. J. Parker, *SBS: The Inside Story of the Special Boat Service* (London: Headline, 1997), p. 315.
85. *Preliminary Lessons*, HC 287/I, para. 37, p. xx.
86. Craig, *Call for Fire*, p. 415.
87. *Preliminary Lessons*, HC 287/I, para. 39, pp. xxi–ii.
88. Craig, *Call for Fire*, pp. 257–8.

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Cultural Comparisons: The Falklands Conflict, the Gulf War and the Future

The study of war is a retrospective activity. By the time the historian or the social scientist (usually civilians) turn attention to a particular conflict, the battlefield has been empty, silent and cold for some time. The significance of the moment has been consigned to social memory in the form of official records and specific narratives of warriors, many of whom have written their memoirs years after the event while adjusting to the new environment of retirement. What was 'real' or seemed so at the time is now reconstructed and the challenge for the analyst is to collate as well as sift these often contradictory 'fragments' of reminiscence into some sort of logical explanation. It is a difficult task, bearing in mind the pervasive nature of dominant narratives and the endorsed accounts by the states involved in the fighting. Yet, in view that the war is over and, historically speaking, no one can obtain a real-time panoramic perspective on a past event, much can be gleaned from the 'still evident' cultural fingerprints of the military organizations involved in the campaign. As Alastair Buchan reminds us, 'war, armed and organized physical conflict, is a very ancient social activity'[1] and with all such actions carried out by people, especially those enacted in a deliberate manner by military institutions, certain idiosyncratic characteristics and consistencies can be identified.

THE FALKLANDS CONFLICT

There is a strong case to be made that for Britain, the South Atlantic campaign was 'unique'.[2] Above all things, Argentina was

the wrong enemy (not the USSR) at the wrong time (the Cold War) and in the wrong place (the southern hemisphere). As such, it was contrary to decades of defence planning that had adopted a Eurocentric and multilateral orientation focused tightly around NATO in order to defeat the forces of the Warsaw Pact. However, this very nature makes the Falklands Conflict so important in a cultural sense because the response of the Royal Navy was not pre-planned to any significant degree and therefore uninhibited by the years of policy 'correct' planning. It this respect, it was an unfettered campaign and many aspects of it reflected gut reactions or 'on-the-job' solutions.

The Choice of Command

One of the most famous choices of command in naval folklore occurred when Lord Barham asked Nelson prior to the battle of Trafalgar to pick his senior officers, to which Nelson replied, 'Choose yourself, my lord, the same spirit actuates the whole profession; you cannot choose wrong'.[3] In this age, the Royal Navy was fortunate in that many officers had experienced combat, and this had produced an impressive lineage of leaders who could win battles. Furthermore, officers were masters of just one specialization, surface-ship warfare. In 1982, it was more difficult, not in the sense that officers were less capable – in fact, they were probably more so – but that very few had fought in combat (except the very senior Admirals) and all came from different specializations. The most remarkable aspect of the Royal Navy's command structure for Operation Corporate was the absence at the highest levels of decision-making of aircraft-carrier and amphibious-warfare experts who possessed the most relevant skills for this type of military campaign. Instead the Royal Navy allowed the submariner subculture to run the South Atlantic campaign. In a recent article, Stephen Prince suggests that

> Fieldhouse's preference for Woodward was more due to their both having been submariners, though Woodward has stated they were not well known to each other and that Fieldhouse had told him he might be replaced. It seems then that any influence arising from this factor resulted from Fieldhouse's perception that submarine training and operations, even in peacetime, provided one of the most arduous and thorough preparations for naval combat and because of a high personal regard for Woodward's capabilities. Fieldhouse's positive choice was one of the most significant decisions he made during the conflict.[4]

This unusual feature, submariners planning and executing an amphibious assault, raises the question of whether, at the higher command levels of operations, specialization is irrelevant and that all that matters is leadership. If so, and as no naval officer can be a specialist in every aspect of naval warfare, an acceptance of such a state of affairs would require the overall commander of an operation to rely heavily on subordinates who were 'experts' in particular specializations to offer relevant advice at critical moments. Yet, in the case of Operation Corporate, it has been revealed in the Falklands literature that the most knowledgeable (and senior) aircraft-carrier/amphibious-operations expert was excluded from the command centre in Northwood.[5] This facet of the Royal Navy's command structure suggests that substantial weaknesses (in terms of a shortage of specialist knowledge and experience) were incorporated into the decision-making process by allowing subcultural asymmetry to occur. After all, would it be appropriate for an aircraft-carrier expert to plan, prepare and direct submarine operations?

Within the Falklands narratives, it is well documented that ideas coming from Northwood about amphibious operations that were subsequently sponsored by Rear Admiral Woodward[6] caused immense friction with the more junior (in terms of rank) amphibious-warfare experts (Commodore Clapp and Brigadier Thompson) due to their lack of understanding about the nature of the task.[7] The notions ranged from constructing an airstrip on West Falkland for Phantom Air Defence aircraft to operate that was simply impractical given the huge amount of engineering support required to build one to using HMS *Fearless* as well as other amphibious ships as 'decoys' off Argentina to draw the enemy's air force into battle.[8] This latter proposal demonstrated a worrying level of unawareness of the sheer importance of these specialized amphibious ships to the success of the entire campaign itself. Losing one or more of these ships prior to the amphibious landings would have seriously jeopardized the Royal Navy's ability to carry out the land assault successfully. Most significantly, serious divisions were created by the first meeting of the three co-equal in-theatre commanders on 16 April due to Woodward's insistence on leadership in an area of naval warfare in which his more junior subordinates were clearly better qualified. In the words of Commodore Clapp, the outcome of this badly led meeting resulted in trust being 'broken'[9] among many of those involved in the operational planning process in the three separate commands. In any terms, this was a disturbing start to theatre-level naval planning.

The use of naval air power was another area of operations that suffered significantly from subcultural influences from within the command structure during the Falklands campaign. Interestingly, criticism about the application of naval aviation stems from one of the most senior and decorated Sea Harrier pilots during the Falklands campaign, Commander 'Sharkey' Ward, CO of 801 Naval Air Squadron. In his estimation, the senior naval commander at sea, Admiral Woodward, appeared to have little confidence in the Sea Harrier:

> That the Admiral should decide on the 8th [May] that 'we were getting absolutely nowhere with aviation' and that he 'was going to have to get on with his war largely without it' is quite revealing. Did that sentiment govern his thoughts about defending San Carlos?[10]

Ward's memoirs are most critical of the constant micromanagement of air assets (tasking and intensive flying routines) by senior commanders who knew considerably less than the pilots themselves about the aircraft and this highly specialized dimension of naval warfare. Naval aviation during the Falklands conflict was divided between 800 Naval Air Squadron based on Admiral Woodward's flagship HMS *Hermes* and 801 Naval Air Squadron flying from the smaller aircraft carrier HMS *Invincible*. During a visit to the flagship on 25 April, Ward recalls a conversation with a fellow aviator:

> Whilst chatting I noticed that the 800 Duty Officer was putting up details for the next 800 sortie. To show interest I excused myself for a minute and asked Blisset what was being planned. 'Actually, we don't plan our sorties anymore. We get told what to do by the Staff. This sortie is for four aircraft to get airborne and fan out with 15º between each aircraft's track to do a visual search of the area to the north-east of the Carrier Group out to 80 miles. Then we are to join up and return to the deck.'
> I was dumbfounded. 'Visual search! What do you mean?'
> 'I mean a radar-silent mission and using the Mark I eyeball to search for ship contacts.'
> I really couldn't believe my ears.[11]

This use of the Sea Harrier for visual searches without recourse to their modern radar was anachronistic in every sense of the word, bearing more resemblance to the use of naval aircraft in World War II than to that appropriate for the 1980s. In an operational sense, this tendency to use aircraft in such a manner led to Ward's

most serious charge that the principal cause of HMS *Sheffield's* destruction was the order from the Flagship to direct two Sea Harriers providing combat air-patrol cover for the Type 42 destroyer to do a visual search 120 miles away from their patrol area. This gap in the air defence was then exploited by the Argentine Super Etendards that fired the deadly Exocet missile which disabled the ship and killed twenty sailors.[12] The attack on HMS *Sheffield* is mired in controversy. The original explanation for the failure of the ship to react to the missiles was blamed on the SCOT transmitter which was in use at the time, blotting out the radar contacts.[13] More recent revisionist accounts reveal the absence of a key officer in the control room (to launch chaff) at the time.[14] However, in terms of significance, moving the Sea Harriers away from their station bears the most responsibility, as any officer with experience of fighting at sea in World War II would testify: ships without air cover are intensely vulnerable and the Falklands Conflict merely reconfirmed this old lesson. Furthermore, the absence of airborne early warning (AEW) placed greater importance on the overhead patrols of Sea Harriers. According to one official report:

> The availability of AEW would have released the Harriers from the need for routine Combat Air Patrols – an expensive and restrictive way of using aircraft – and would have enabled British forces to react on warning to intercept incoming fighter/bombers and fighter aircraft, either before they came within range of the task force, or before they had delivered their weapon loads. This would have reduced substantially the threat from sea-skimming missiles; it would also have given the ships of the task force more time to take evasive action and prepare their own active and passive defences. Operations such as the high risk picket duty performed by the Type 42 destroyers, in the course of which HMS SHEFFIELD and HMS COVENTRY were lost, might have been unnecessary.[15]

With no AEW, keeping the Sea Harriers on station was vital for two reasons: firstly in an active sense they could detect incoming attacking aircraft and secondly, from a passive one, their very presence was in itself a deterrent to Argentine aircraft who would pick them up on radar while searching for British ships.

Cultural Predilections: Relearning Old Lessons the Hard Way

The Falklands Conflict offered a different combat scenario from that war-gamed by the Senior Service during the Cold War. The

primary threat stemmed from low-flying Argentine ground-based aircraft and, unsurprisingly, the Royal Navy adopted an 'on-the-spot' solution that reflected a long-held cultural predisposition that ship technology could overcome the aircraft threat. This institutional inclination, however, had been painfully exposed as a faux pas on numerous occasions during World War II, not least of which with the sinking of two capital ships, HMS *Prince of Wales* and HMS *Repulse* by Japanese land-based aircraft off Singapore in December 1941.[16] Yet, the Task Force did not possess any senior officers with first-hand experience of World War II, and the missile revolution of the preceding 30 years (Sea Slug, Sea Cat, Sea Dart and Sea Wolf) appeared to change the balance of advantage between ships and aircraft but in fact merely offered 'old wine in new bottles'. Consequently, these old fashioned but culturally resonant ideas manifested themselves in the plan to put a Type 22 frigate with a Type 42 destroyer in an exposed position to encourage the Argentines to attack them. Appropriately, the architect of the scheme Rear Admiral Woodward knew as much as anyone else about the abilities of the Type 42 destroyer because he commanded the first ship of the class, HMS *Sheffield*, in 1976.[17] On paper the idea looked promising. Neither ship possessed both a medium-range and a short-range missile system but each possessed one type: the Type 42 was designed around the medium-range Sea Dart system and the newer Type 22 had the short-range Sea Wolf missile. Putting them together should offer a potent missile trap. Official post-conflict reports about Sea Dart reveal that

> There is some dispute about the number of aircraft shot down that may be attributed to Sea Dart, and some evidence to suggest that Argentine pilots may have mistaken hits by Sea Dart for Sea Wolf. Interviews with Argentine pilots confirmed that their knowledge of Sea Dart did indeed affect their tactics. It is reported that in some cases, Sea Dart missiles succeeded simply by causing Argentine pilots to abandon their missions. The missile was very effective in that it deterred or inhibited attacks, and forced the Argentines into low level attacks. However, this did contribute to the problems experienced by ships operating without AEW.[18]

The effectiveness of the Sea Dart missile has generated some debate but, like the Sea Harriers, it clearly had significant deterrent effect not least of which because the Argentine forces had bought this system from Britain in the 1970s and so possessed a significant

amount of knowledge about its operational capabilities. As to the Sea Wolf missile system, the same report also remarks on its performance during the South Atlantic campaign, that:

> Some problems were experienced, but witnesses reported that these were dealt with successfully, except when Sea Wolf was operated in very enclosed waters. Sea Wolf has been criticised on the grounds that it has only two guidance radars and is therefore subject to saturation; that because of the short range of the engagements it is unlikely to be able to deal in sequence with more than two targets; that its launcher carries only six rounds and reloading is manual. Uncertainties exist about its ability to give all-round protection to ships other than those carrying it.[19]

Encouraging the Argentine Air Force and naval aviation to attack two isolated ships with modern jet-propelled fighter/bombers was an enormous risk and one that perhaps sailors who had experienced air attacks in World War II would have found questionable; however, missile technology appeared to offer a means to overcome the traditional vulnerability of ships to aircraft. On the first attempt, HMS *Glasgow* and HMS *Brilliant* were paired together on 12 May to a prominent position just off Port Stanley. Brown provides an excellent account of the first engagement with hostile Argentine aircraft:

> The *Glasgow*'s Type 909 directors picked up the target – four A-4Bs of V Air Brigade – but the Sea Dart loading system then failed safe, the launcher computer refusing to accept the two missiles. As soon as the Skyhawks came within range, fire was opened with the 4.5in gun. This had fired sixty-seven rounds without trouble during the morning, but it now jammed after eight rounds. Two automatic systems had now failed, leaving *Brilliant*'s Sea Wolf as the next-to-last-ditch defence. With the strike aircraft little more than a mile away, the *Brilliant*'s system fired three missiles in rapid succession. Two of these scored direct hits, blowing their victims apart. The target of the third, flying at wave-top height, took violent evasive action and flew into the rough sea. The system could not re-engage the surviving Skyhawk in time to prevent it from releasing a 1,000lb bomb at the *Glasgow* – too early, for the bomb ricochetted off the water over the roof of the destroyer's hanger.[20]

The first engagement, despite unforeseen problems with Sea Dart, appeared to vindicate the proposition of two ships operating by

themselves against Argentine aircraft with Sea Wolf performing commendably. However, twenty minutes later, another flight of four Skyhawks attacked, this time in an attack profile that included weaving to throw off the aim of gunners, and managed to confuse the Sea Wolf system that refused to engage the targets. This time, two bombs just missed HMS *Brilliant* and another hit HMS *Glasgow* amidships but fortunately did not explode (it actually punched straight through the hull of the ship and out the other side, just above the waterline).[21] A third wave of aircraft appeared 45 minutes later but decided not to press home the attack. Two interpretations can be gleaned from this incident. Either the warships were unlucky that two of their primary systems had failed initially (Sea Dart and 4.5-inch gun), followed subsequently by a third (Sea Wolf), or both ships were extremely lucky to be still floating given that the Argentine aircraft had managed to overfly the vessels on two separate occasions (to drop ordnance) with a 40 per cent loss rate on the initial runs. The disturbing fact was the 100 per cent failure rate, albeit temporary, of the primary missile systems on both ships after the first engagement. The absence of a close-in weapons system meant that the only resistance that could be offered was from small-calibre weapons (just two 40mm on HMS *Brilliant* and two 20mm guns on the Type 42 destroyer with other small arms when HMS *Glasgow's* sole 4.5-inch gun was unavailable).[22]

Rear Admiral Woodward's analysis of the event in his diary is revealing, 'Fleet trial [the 42/22 combination] has made progress, but still needs its final test'.[23] Despite the clear signs of vulnerability, especially the experience of one valuable ship (an anti-aircraft ship above all things) being temporarily knocked out of action, the trial did not dispel notions of viability of the concept. At this stage of the campaign, the damage to HMS *Glasgow* was particularly acute as it meant that the Task Force now only had one fully operational Type 42 destroyer (HMS *Sheffield* had been neutralized on 4 May) until new replacements arrived. This indisputable fact forced the commander of the Carrier Battle Group to admit, 'I would have to abandon my 42/22 "Trials", since I dared not risk losing my only remaining forward long-range radar and long-range anti-aircraft ship'.[24] The second trial of the missile trap occurred on 25 May and involved the Type 42 destroyer, HMS *Coventry* and the Type 22 frigate, HMS *Broadsword* operating just off Pebble Island. On this occasion, with the amphibious assault at San Carlos having taken place four days earlier, the attacks of the Argentine aircraft were focused on the beachhead until the Argentine command became

aware of the presence of the two ships. Initially, the deployment seemed to work well, picking off two Skyhawks (with Sea Dart) as they closed on San Carlos during the morning. That afternoon, however, the Argentine Air Force launched six aircraft to eliminate the two ships but two returned to base due to mechanical problems and the remaining four A-4Bs split up into two pairs to attack the ships separately.

The narratives inside the Royal Navy of the attacks on HMS *Coventry* and HMS *Broadsword* are steeped in fault and blame primarily concerning the actions of the warships. The most recent example is by Ian Inskip who recalls, 'It transpired that a raid had suddenly opened from Pebble Island. CAP, about to intercept, was hauled off by *Coventry*, who then turned the wrong way. She crossed between *Broadsword* and the raid, breaking lock and preventing Sea Wolf from firing.'[25] Like so many of these accounts, the fault is attributed to HMS *Coventry* and there is a noticeable tendency to roll the two separate attacks into one. Brown provides a more accurate account of the first wave of Skyhawks and the decision to call off the Sea Harriers:

> Unfortunately, the Sea Harriers would not reach a firing position until just before reaching the limit of Sea Dart engagement range and, confident in the efficiency of his system and concerned for the safety of the friendly interceptors, Captain Hart-Dyke of the *Coventry* ordered Thomas and Blisset [Sea Harriers] to haul off, much to the disappointment of the pilots. From that moment things began to go awry. The *Coventry*'s system, although prompted by the *Broadsword*, failed to pick up the A-4Bs as they hugged the water behind Pebble Island and then shot out into open water through the gap between the island and Pebble Islet, just to the west. From there the Skyhawks had less than a minute's flying time to the two ships and still the Sea Dart system had not acquired, although they were harassed by the destroyer's 4.5in gun. The *Broadsword*'s Sea Wolf radar tracked the targets in, but just as the system should have fired automatically it became confused, possibly by the echoes of the explosions of *Coventry*'s shells, and, as had happened in the *Brilliant* off Port Stanley, the two missile launchers slewed back to their fore-and-aft positions, leaving insufficient time for a re-engagement.[26]

The two attacking aircraft dropped four 1,000-lb bombs, of which three missed and one hit HMS *Broadsword* through the side by the flight deck, wrecking the Lynx helicopter before passing into the

sea without exploding. The key point from this experience was that just as in the previous trial, both ships demonstrated enormous vulnerability when facing direct attack and, in both cases, the missile systems were simply not up to the task facing them. The Sea Harriers would probably have been a better solution but would not have saved the ships from the second attack just moments later.

This air strike was again spotted by the Sea Harriers but for safety reasons (to prevent a blue-on-blue) HMS *Coventry* called them off. Once more, Sea Dart failed to acquire the targets effectively and this time while manoeuvring under fire, HMS *Coventry* moved across HMS *Broadsword's* line of sight and prevented Sea Wolf from firing. Three of the four bombs hit HMS *Coventry* and exploded sinking the ship minutes later. HMS *Coventry's* manoeuvre is often cited as the principal cause of the loss of the ship and reveals a debate about what was the best position for a ship to be when facing attacking aircraft. Commodore Clapp provides an insight into the thinking at the time:

> There were, too, differences of naval opinion over what the best action a destroyer or frigate should take when under air attack. Some captains believed that the best manoeuvre was to offer an end-on view to the incoming target as that was the smallest; others believed (and the Carrier Battle Group staff were among them) that presenting a broadside view to the enemy was better as the full range of weapons could be brought to bear. 'The broadside lobby' felt that if a bomb dropped on the beam and fell short it could skip over the hull but if dropped from ahead of the ship and skipped it might drop down on to the stern. Other considerations needed to be taken into account; a bows-on attack against a ship steaming fast made it less likely that the skipping bomb would fall quickly enough to hit the ship; many beam attacks were deflected by the mass of small arms that could be trained at that aircraft and many pilots, being inexperienced, hit the stern or missed astern. *Coventry*, though, was hit fair and square, broadside on with all three bombs detonating and with a mass of tracer in the sky. Theories, as so often, were less reliable than empirical observations.[27]

Unlike Woodward,[28] Clapp who was much closer to the incident geographically speaking suggests that HMS *Coventry* was broadside-on to the attacking aircraft; however, the final manoeuvres of ships under close-range air attack are of little

importance in relation to the wider operational picture. Frankly, both ships had been given a 'mission impossible' for which their missiles systems (technology) were simply not up to the demands of the job. The Sea Dart missile was not designed to engage low-level and rather small fighter bombers[29] and the Sea Wolf was primarily an anti-missile system.[30] The warships, captains and crews were tasked beyond their technological capabilities and the fault lies primarily with a cultural disposition toward using ships as the primary weapons platforms against aircraft. As Woodward remarks after the sinking of HMS *Coventry*, 'I re-considered my earlier opinion that the 22/42 combination actually worked and decided that, upon reflection, it probably didn't. Not close to the shore anyway, and the tactic had now cost us both *Glasgow* and *Coventry*. And possibly *Broadsword*.'[31]

THE GULF WAR

The Gulf War was another unexpected scenario for the Royal Navy that occurred at a momentous time in international relations with the end of the Cold War. Once more, the enemy was a significant trading partner, with whom Britain had enjoyed cordial relations for some time,[32] and lay outside of the scope of traditional defence policy as a future opponent. In addition, the predominance of the US Navy not only in the sheer size of deployed forces (six carrier battle groups) but also within the command hierarchy meant that the Royal Navy could not shape operations with the same amount of latitude as had been displayed during the Falklands Conflict. Consequently, the response of the service with regard to planned offensive against the Iraqi forces was significantly more constrained in a cultural sense; nevertheless, the Royal Navy played a very important part in the fighting.

Third Among Equals

It is important to stress that the Gulf War of 1991 did not hold the same importance to the United Kingdom as the Falklands Conflict of 1982. The former revolved around economic interests and alliance politics, whereas national honour as well as political survival had depended on the outcome of latter. Consequently, the government's attitude was markedly different in terms of the allocation of military resources despite the fact that it was

(initially) the same Prime Minister, Margaret Thatcher, in office. Of the three British armed forces deployed to the Gulf region, the Royal Navy was the smallest in terms of size, and its commander held the most junior rank of the three senior representative commanders. This command structure of Operation Granby contrasted sharply with that of Operation Corporate just eight years previously. Much of this disparity stemmed from the leading roles of the other two services. In terms of interservice politics, these appointments were highly significant as they reflected the Royal Navy's shortage of influence at the highest levels of the command hierarchy. Consequently, the naval force package in the Persian Gulf by the start of Operation Desert Storm was unsurprising, and the service fought the campaign without the key platform of choice: an aircraft carrier.

The absence of the Royal Navy's capital ship makes the Gulf War an unusual and culturally asymmetric conflict for the Senior Service. Rarely in history has the Royal Navy been forced to fight a full-blown conflict without the presence of its preferred technology. In this respect, the Gulf War stands apart from previous post-war hostilities on such a scale as the Korean War (1950–53), the Suez Crisis (1956) and the Falklands Conflict (1982). What is more remarkable is the fact that an aircraft carrier was available and was requested by both British and coalition commanders but the Ministry of Defence did not allow it to be deployed. Without an aircraft carrier, the naval forces in the Persian Gulf were limited in many respects. First, the need for a more senior commander was avoided, thus curtailing the influence of the senior naval commander, just a Commodore in rank, within the overall British command hierarchy and with the coalition forces. Secondly, having a carrier would have alleviated the burdens on the naval staff in terms of command and control that were literally shoehorned into relatively small escorts such as a Type 22 frigate. After all, one of the key functions of the *Invincible*-class aircraft carrier was to act as a command platform. As an official report noted prior to the Gulf Conflict,

> **All three carriers now have full command and control facilities. These facilities are compatible with those of the United States Navy at present – interoperability 'has been built in'; we note however that there are 'possible concerns about the future' and that the MoD is watching this aspect closely.**[33]

The shortage of this very valuable ship meant that the Ministry of Defence had to spend significant amounts of money to upgrade

the communications suites of the British ships so that they could exchange information effectively with their American counterparts and with the United Kingdom. According to Commodore Craig, this new equipment included 'secure-speech radio (to talk privately via satellite with the UK), and data communications systems (providing the ability to pass signals back and forth without pieces of paper)'.[34] It was an expensive alternative solution to upgrade the numerous frigates and destroyers when the overall cost could have been significantly reduced by having a large command and control platform in-theatre with the requisite communications package already in place. Finally, the 'non-appearance' of an aircraft carrier dramatically reduced the Royal Navy's media impact that a capital ship automatically confers. Of all the ships in the navy, the nation remembers perhaps above all others three names that happen to be those of the aircraft carriers HMS *Invincible*, HMS *Illustrious* and, more so than the other two, HMS *Ark Royal*. The latter ship had gained popular appeal in Britain in the 1970s with the famous BBC fly-on-the-wall exposé, though admittedly, the ship available for operations in 1991 was the newer and much smaller version. In terms of public relations, the loss of interest through a concurrent lack of media attention undoubtedly made worse by the absence of an aircraft carrier had significant post-conflict ramifications for the service. Nothing grabs the nation's attention than a big ship in-theatre nor such a vessel returning to its home port to a hero's welcome. In the Gulf War, the Royal Navy could provide neither setting and, as the senior naval commander in the Gulf remarked on returning back to the United Kingdom at the end of the fighting, 'public perception seemed to have overlooked our Navy's presence in the Gulf'.[35]

The Coming of Age of the Naval Helicopter

The Gulf War reinforced a lesson of the Falklands Conflict that naval air power is really the most potent threat to surface ships in a modern combat environment. The key point is that air assets with missiles have a greater utility in naval warfare than surface ships armed with the same technology and for considerably less risk. One veteran of the Falklands Conflict suggests that it was a lesson that the Royal Navy did not learn after 1982 due to subcultural predilections:

> However, it turned out that the anti-Fleet Air Arm faction within the Navy again held full sway within a year. The official Navy Presentation Team touring the country and

> providing the public with an insight into the service soon gave scant attention to the Sea Harrier or the importance of organic air power at sea. It was as if the air war in the Falklands had never taken place. The very officers who had relied on the Sea Harrier for the outer ring of defence at sea and in San Carlos, and who had been terrified of the Exocet threat, again shut their minds to the real needs of a war-fighting navy.
>
> New warships were designed with grossly limited over-the-horizon hitting power. Instead of arming new ships' helicopters with Exocet-style missiles, it was decided that such missiles were to be fired from launchers bolted to the deck! The Etendard air-delivery flexibility was forgotten. Fish-heads in the Ministry preferred to limit their options in war rather than give the Fleet Air Arm a further string to its bow. Enemy ships would now have to be closely approached by the new RN frigates before the latter could engage them; instead of preserving the safety of the ship by sending missile-armed helicopters to meet the threat at long-range.[36]

This debate goes to the very heart of the Royal Navy's institutional culture because ships have historically provided the technology for success in war by allowing the officer corps to close with the enemy and destroy them. All of the major cultural icons of the service were surface-ship experts but modern warfare had demonstrated that though the ship was still a critical platform, the fighting (from which the essential personal honour and recognition was to be gained) was best carried out by air assets commanded by relatively junior officers either singly or in pairs. In itself, this operational truism was counter-cultural in nature, reducing the emphasis on the ship and its crew to fight by focusing on just a few specialized individuals to gain the glory. Victory in battle would not be associated with the names of famous ships but rather of famous pilots. Furthermore, it highlighted the role of one of the most recent subcultures of the service: the Fleet Air Arm. A remarkable facet of the Gulf War was that despite the enormous individual performance of naval helicopter pilots and observers destroying a quarter of the Iraqi Navy, none of them received commensurate service and national recognition in the same manner of predecessors such as Drake, Nelson or even Woodward, nor for that matter did their overall commander.

The Royal Navy's C3I system and operational strategy worked extremely well in the Persian Gulf without the same levels of

friction experienced eight years earlier. The choice of the senior commander during the fighting, Commodore Christopher Craig, was an important element in much of the smooth running of the system due to the symmetry of his subcultural specialization in naval aviation with the nature of the operation that was augmented by recent experience in naval combat. The consequent use of naval air assets demonstrated clarity and effectiveness that allowed the Royal Navy to have a disproportionate effect in the fighting. Ships were used as floating logistical platforms to allow the naval helicopters armed with the Sea Skua missile to engage the enemy with virtual impunity and significantly reduced risk to the manpower-intensive warships. The downside to the operational plan was the heavy reliance on the Lynx helicopters due to the absence of alternatives (that an aircraft carrier would have provided) with higher levels of fatigue among the flying crews and their supporting personnel. Nevertheless, air operations performed well in the Persian Gulf without the subcultural frictions over tasking and strategy that were experienced in the South Atlantic campaign.

Warships were not exposed to the same levels of deliberate risks regarding air threats like the experimental Type 22/42 combination as was seen in the Falklands conflict, but the danger posed by Iraqi air assets proved to be much less than that from the Argentine Air Force. The Type 42 destroyers played an essential part in the air defence of the coalition ships operating in the Northern Gulf and demonstrated an effective capability against threats like the Silkworm missile. However, it is important to note that this guided munition was not as sophisticated as the Exocet missile and for that matter was not directly heading at the ship. Questions still remain as to whether the Type 42 could cope with multiple, low-level threats that explicitly targeted the warship. However, unlike in the Falklands, this time the air defence destroyers possessed a close-in weapons system in the form of the American Phalanx system but did not have an opportunity to comprehensively test the system in combat. The Type 22 frigates also did not have an occasion to fire their missiles in anger due to the paucity of targets and the relative positions of the ships behind the Type 42 destroyers. Notwithstanding these constraints, the ships proved to be effective command ships given the absence of larger C3I platforms. HMS *Brilliant*, another Falklands veteran, also marked the conflict by being the first mixed-gender warship operating in a combat environment in British naval history. The lessons from this revolutionary experiment suggest that overall it works, yet doubts remain as to how the

combination of men and women would respond in the event of a warship sustaining major damage and injuries/ fatalities among the crew. The issue of whether training would overcome the psychological consequences of witnessing traditional social constructions of gender (of men being the protectors of women)[37] being overturned in the event of female crew members being hurt or killed has yet to be experienced.

In the area of mine warfare, the Royal Navy in the Gulf War was far better prepared to meet this threat than during the South Atlantic campaign in which the massive Task Force was forced to rely on converted trawlers as minesweepers.[38] Indeed, at one stage during the Falklands conflict, Rear Admiral Woodward had chosen a Type 21 Frigate, HMS *Alacrity* commanded by the then Commander Christopher Craig, to detect by presence (in other words by deliberately sailing through unswept waters) the existence of mines in Falkland Sound.[39] In the Persian Gulf, Britain sent the most sophisticated mine-countermeasures ships in the world that were far superior to the equivalent assets of the United States Navy. The *Hunt*-class vessels played a pivotal role in opening up channels for the powerful battleships to close with the shoreline to offer naval gunfire support to advancing coalition land forces heading up the coastal route to Kuwait City. As American commentators have stated:

> The magnetic hull signatures of the *Hunt*-class ships were so low that the Royal Navy considered them invulnerable to Iraqi mines in depths greater than 30 feet. 'The British are well ahead of us,' noted Lieutenant Commander David Jackson, Commanding Officer of *Impervious*. 'Not only are their Hunt class . . . superior platforms for MCM, but they have an excellent logistics system to support them.'[40]

The plans for the deployment of these vessels was one source of tension between the two navies due to the unacceptable nature of initial strategy but it was an area that was quickly ironed out by Commodore Craig. With regard to this highly specialized field of naval warfare, the management style of the senior naval commander in the Gulf helped to facilitate the most effective use of his assets. Commodore Craig admits in his memoirs that:

> We concentrated hard upon the complexities of minewarfare, the one naval warfare discipline that even the most experienced tactician still tends to leave to the specialist. I leant extremely heavily upon the advice of John Scoles [the senior MCM specialist] and Lieutenant Commander Brian Mansbridge, my MCM staff officer who

> had been embarked with the USN minehunting force. I had also called to the flagship as my permanent adviser Lieutenant Bill Kerr, a small Scottish clearance diver of quiet self-belief and high ability who proved invaluable.[41]

British mine-clearance operations were highly successful in the Persian Gulf and much of the credit must lie with the ability of the various subcultures of the service to work together harmoniously in a system that allowed superior knowledge to transcend the traditional barriers of rank. Subcultural specializations always offer a potential source of friction in any military command system but during the Gulf War, the Royal Navy avoided many of the problems associated with the Falklands campaign due to the enlightened leadership of Commodore Craig. His plans were rooted on the advice of the best-qualified officer with regard to this highly complex dimension of naval warfare and consequently the naval command system of Operation Granby stands out as a model for future operations of this type.

THE FUTURE

The start of the twenty-first century has found the Senior Service facing some difficult choices concerning the way ahead. Many of the critical future decisions concerning an appropriate force structure for the new millennium must be made in light of the fact that the Royal Navy has contracted considerably after the Falklands Conflict and the Gulf War in terms of both manpower and warships. The number of personnel in the service has fallen from 66,400 in 1981[42] to almost half that number in 2003. With respect to ships, a good indicator is provided by the workhorses of the fleet, the destroyers and frigates which have also witnessed a 50 per cent reduction from a peak of 61 at the start of the 1980s to the level of the present day.[43] These profound changes have raised some awkward questions about the service and its relationship with society. First, why the rapid decline in manpower and ships? A historical perspective can be derived from one of Paul Kennedy's conclusions that 'Britain's naval rise and fall has been so closely bound up with her economic rise and fall'.[44] A derivative of this line of argument that the changing nature of Britain's economy was impacting on the Royal Navy was echoed by the Defence Committee in 1988 concerning the reasons why people were leaving the service:

> SDE 88 remarks that 'The Services face stiff competition from civilian employers, especially in those areas where there are national shortages of well qualified and able staff'. **Men skilled in the technologically sophisticated systems of a modern warship will be attractive to a range of civilian employers.**[45]

Undoubtedly, the creation of thousands of jobs in the telecommunications industries in the 1980s and 1990s has been a source of competition for the Navy not only with regard to initial recruits but also in attracting trained manpower toward a more settled existence far removed from the endless cycle of far-flung appointments and extended sea time that characterize military service. Furthermore, one of the old recruiting chestnuts of naval life, 'to see the world', has been dramatically undercut by the era of cheap flights and package holidays. Modern youth does not need to enjoy exotic locations around the world by signing away a few years of life to an institution that demands discipline and self-denial within a team environment. In addition, the promise of action and adventure offered by the Royal Navy today faces strong cultural competition for the attention of the younger generation from 'commitment-free' extreme sports as well as by the hedonistic individualism of the 'MTV' generation.

On top of these factors, contemporary British society could well ask the valid question of what is the Royal Navy? The last 30 years of the 'troubles' in Northern Ireland has forced members of the armed services to sensibly adopt a lower public profile due to the dangers of being targeted while off duty by an enemy that does not wear a uniform and blends in well with British society as a whole. Consequently, one of the most important recruiting venues for the service in a historical sense, the public house (the haunt of the notorious press gangs in previous centuries) has become a uniform-free zone, the very place where impressionable young people still congregate voluntarily. The age of the sailor or for that matter the airman and the soldier proudly wearing his or her uniform while enjoying social interactions in bars has become a thing of the past, and the armed services as a whole have lost the most effective means of demonstrating their existence to society. The uniform is more than just clothing, it's an advertising symbol par excellence. Douglas Porch provides an interesting insight into another old and famous military institution, the French Foreign Legion and the public impact of legionnaires wearing uniforms:

> To watch the Legion parade down its *voie sacrée* before the monument commissioned by Rollet (which, like other

> Legion relics, has been transferred to Aubagne near Marseilles), its bearded sappers, axes on their shoulders, opening the march with their slow elongated step, followed by legionnaires in their white képis, red and green epaulets and blue sashes, is to glimpse its irresistible mystique.[46]

Military institutions have to compete on a visible scale with all the other possible lifestyles that demand the attention of the teenagers in contemporary Britain, otherwise the pool of potential recruits will be reduced to those who possess a connection in some way (family or friends) with the service that is demographically becoming increasingly shallower with each passing year. Overall, the price of enhanced security from terrorism has been exceptionally high because it has dramatically reduced the social consciousness about the services amongst British youth when the attractions of alternative ways of living have actually increased.

Back to the Future Part I: New Strike Carriers

The decline in the numbers of British warships from the early 1980s onward was inevitable given the high age factor among the British fleet. This element, combined with falling manpower, has led to several relatively young ships like the Type 22 (Batch 2) frigates being put up for sale or to be used as target practice for Royal Navy missiles. The critical question is what sort of fleet should the Royal Navy construct for future operations? The election of Tony Blair's New Labour Party in 1997 provoked a fresh examination of British defence policy in the form of the Strategic Defence Review (SDR) of 1998. Out of this comprehensive review emerged a commitment to build two new strike aircraft carriers of 30,000–40,000 tonnes by 2012 for the first ship,[47] though recent observers suggest that in fact these ships may be much bigger, up to 50,000 tonnes.[48] The new warships would offer a much more powerful punch than the *Invincible*-class aircraft carriers by carrying up to 50 aircraft (fixed-wing and rotary) in total. The decision to build these vastly more capable ships fits well with the Royal Navy's cultural predilection to fight naval warfare at the highest level, and attunes the service to the new strategic environment facing Britain with the end of the Cold War. Recent events such as the campaign in Afghanistan in 2001–2002 and the War on Terror in general suggests that wars will be fought far beyond the traditional Eurocentric parameters of British defence policy. In addition, much of Britain's armed forces are still geared to fighting wars on the European continent.

The Royal Air Force has severely limited long-range capabilities and even with the belated introduction of the latest fighter/bomber, the Eurofighter (the design for which were drawn up during the Cold War years), the new aircraft is not designed for out-of-area operations without host-nation support. An interim step put forward by the SDR was the creation of the Joint Force 2000 that combined RAF Harriers with Fleet Air Arm Sea Harriers under one command.[49] These aircraft could then be deployed for operations on the *Invincible*-class carriers. Naval air-power projection is the most logical solution to the new warfare in the littoral regions and the new aircraft carriers will prove to be indispensable. The British Army too is still heavily orientated toward NATO operations, but enhanced air-mobility units are beginning to sway to balance of the forces. The construction of two new amphibious assault ships, HMS *Albion* and HMS *Bulwark*,[50] in combination with the helicopter carrier HMS *Ocean* will in the near future enable the Royal Navy to put sizeable land forces ashore which will allow the British Army to be deployed more effectively outside Europe.

The new strike carriers offer many benefits for the Royal Navy in the short, medium and long term. First, these ships are essential to the cultural construction of the service. The warship, whether consciously recognized or not, forms the bedrock on which the Royal Navy's imagination about war – past, present and future – rests. As Cameron illuminates about the United States Marine Corps in World War II,

> Among the many broadly defined categories of imaginary constructions that are nearly universally shared, three categories in particular provide a useful framework for the study of the Marines in the Pacific War. First, images of the Other objectified and dehumanized the enemy. Second, images of the Self defined their own particularistic code of behaviour and military rationality that affected directly the planning and conduct of operations. And third, by late in the war, the Marines had harnessed technology to empower their indoctrination.[51]

With respect to the Royal Navy, the technology offered by the strike carriers will allow them to enact (or as Cameron would suggest 'empower') their belief system in the same manner that Nelson used ships to achieve decisive victories. The key difference is that unlike in Nelson's case, neither of the strike carriers will close with the enemy to the extent of passing within gunshot range; however, through the ships' aircraft, a similar

outcome will be achieved: the destruction of the enemy. The importance of the surface ship will be reconfirmed and officers can rest assured that the technology that has provided the service with so much success over the centuries will once again be at their disposal. One of the fringe benefits of possessing these large warships will be their impact on British society as a whole: aircraft carriers and their associated aircraft are very glamorous. The most popular film about any navy around the world is clearly the startlingly successful *Top Gun* of the 1980s about US Navy fighter pilots and their aircraft. It has proved to be a tremendous recruiting tool on both sides of the Atlantic, and the Royal Navy would be able to capitalize on this 'youth appeal' with the introduction of the state-of-the-art, American-designed Joint Strike Fighter (JSF), that is envisioned for the carriers when they enter service.

Secondly, their existence necessitates the construction of new air-defence destroyers, the Type 45, with the first entering service by late 2007. Its predecessor, the Type 42, has offered sterling service to the Royal Navy, often used beyond its limits in every sense of the word, but in the main has more than justified the expenditure in the ship and the remarkable Sea Dart missile system. The Type 45 destroyer is a much bigger ship than the Type 42, almost twice its size at 7,200 tonnes. According to the Ministry of Defence,

> **The TYPE 45 will be the largest and most powerful air defence destroyers ever operated by the Royal Navy and the largest general purpose surface warships (excluding aircraft carriers and amphibious ships) to join the fleet since World War Two cruisers. When the Type 45 enters service later this decade it will provide the fleet with an air defence capability that is several orders of magnitude greater than that provided by the existing force of Type 42 destroyers.**
> The main armament of the class will be the sophisticated and lethal Principal Anti Air Missile System (PAAMS), which is being developed and procured jointly with France and Italy. The cost to the UK of the full development and initial production of the first PAAMS system is about £1 billion and this contract and the procurement of further systems to equip the rest of the first batch is expected to sustain several hundred jobs in high technology UK aerospace and electronics industries.
> PAAMS will equip the Type 45 to defend itself and other ships in company from attack by existing and future anti-ship missiles of all types.

> The Type 45 will also be able to operate close inshore and use PAAMS to give air cover to British Forces engaged in the land battle.
> The system is designed to defend against supersonic, stealthy, highly manoeuvrable missiles that could use sea-skimming or steep-diving flight profiles approaching in salvoes, simultaneously from several directions.
> PAAMS is capable of controlling several missiles in the air at any one time, each one of which could engage individual targets, preventing attackers from swamping the fleet's air defences.[52]

The Principal Anti Air Missile system (PAAMS) uses two types of missile: the shorter-range Aster 15 (1.7–30 km) and the longer-range Aster 30 (3–80km)[53] which are essentially the same missile except in terms of size of the initial booster stage. As such it overcomes the critical deficiency of the Type 42 destroyers by possessing both a short-range and a medium/long-range system. The performance of the warship in a air-defence role revolves heavily around its powerful radar systems, the SAMPSON Multi-Functional Radar (MFR) (for surveillance and fire control) and the Signaal/Marconi S1850M Long Range Radar (LRR) for air/surface search.[54] The Type 45 promises a level of capability that will allow the Royal Navy to not only defend a carrier battle group but also protect ships operating within the littoral regions while disembarking land forces ashore. In this respect, it may tip the balance of advantage between warships and air threats at medium to short ranges within a combat environment and allow the service to fight naval warfare along culturally consistent lines.

Among the small escorts, the Type 23 frigate, introduced to the fleet in the early 1990s, is likely to remain the mainstay of the frigate fleet for the foreseeable future. This warship encompassed many lessons of the Falklands, most notably the inclusion of a 4.5-inch gun,[55] the new American Harpoon anti-ship missile and the Vertical Launch Sea Wolf missile. A Defence Committee report about the latter system reveals that

> In 1984 the MoD also announced its decision to fit to the Type 23 frigates a vertically-launched version of Sea Wolf developed by British Aerospace. This modified system enables missiles to be fired from one source all around a 360 degree arc; it also improves the system's response time.[56]

In theory, a Type 23 frigate has 32 VLSW missiles available to defend the ship with this new system and no blind arcs (areas that the missile system cannot defend without the ship having to

manoeuvre in a specific direction). Conceptually, changing the original and highly successful Sea Wolf to this more elaborate configuration fall within Mary Kaldor's notion of baroque technology.[57] However, a more precise description of this radical change to Sea Wolf is encompassed by the term 'remix' when the original aim of a technology remains the same (to destroy air threats) but an opportunity (the Falklands Conflict) arises to facilitate the overlaying of a new technology (vertical launch systems) on a tried and tested missile that then has a momentum of its own. VLSW was always going to be a highly complex system in terms of performance when measured with the much simpler original system. Firing vertically with a booster that flips the missile over in the direction of the target with the main motor kicking in at the same time has multiplied the factor of complexity by a factor of two. The old system merely pointed in the right direction and fired. In addition, the original system overcame many of the problems associated by high winds by presenting a 'head-on' launch, whereas VLSW allows the missile to be buffeted by wind at the more vulnerable sideways angle during the initial firing stage. Discounting all these practical difficulties, arguably the most complex element would be directing the short-range missile to its target using computers with a reaction time measured in seconds. A simple and combat-proven system has been made significantly more complex by the inclusion of this remix technology when adding more canisters to the original missile launchers would have been a much cheaper alternative. One of the apparent omissions on the Type 23 frigate is the absence of a close-in weapons system (CIWS) like Phalanx or Goalkeeper which would dramatically improve the levels of weapons redundancy (compensation for the failure of a primary system) should VLSW not live up to its vaunted potential. Otherwise, like the Type 42 destroyers and the Type 22 Batch I frigates in the Falklands Conflict, these ships could well find themselves in the same vulnerable position (should VLSW not work for whatever reason) in a critical combat environment. Interestingly, no mention of a CIWS is apparent in the weapons package of the new Type 45 destroyer. Perhaps these shortfalls suggest a degree of institutional 'memory loss' concerning key lessons of the Falklands Conflict.

Back to the Future Part II: Losing the Sea Harrier/Interservice Rivalry Strikes Again

It is easy to forget that the primary purpose of naval air power is to protect the fleet at ranges in excess of that provided by ships.

Aircraft can do it in two ways: anti-aircraft/missile operations at ranges of 150 miles ahead of the aircraft carriers, or anti-shipping missions like the famous raid on the naval base at Taranto in 1940 when the Fleet Air Arm managed to inflict significant damage on the Italian fleet.[58] Outside of these two primary roles, the Fleet Air Arm can fulfil a secondary role of strike missions against land targets, though as was seen in the Falklands Conflict, this role was better suited to the RAF's Harriers. Even with the introduction of the Type 45 destroyer, the Sea Harrier would still offer an outer shield of defence at longer distances than the twenty-first century technology provided by the ship-based anti-air missiles. With regard to fixed-wing aircraft technology, the Royal Navy has made significant steps forward in the 1990s. The Sea Harrier has been upgraded to a much higher level of capability. One official insight into these improvements highlights

> The Sea Harrier mid-life update, bringing the aircraft to FRS2 standard, is intended to provide these capabilities. The principal elements of the update programme are:
>
> – the replacement of the Blue Fox radar by the Blue Vixen multi-mode fire control radar;
> – the addition of an Advanced Medium Range Air-to-Air Missile (AMRAAM) capability; and
> – consequential changes to the Sea Harrier airframe.[59]

The Sea Harrier FRS2 is arguably one of the most capable air-defence interceptors in the world and the AMRAAM missiles allow it to engage targets approximately 50 miles away from the aircraft. This is a huge improvement on the original Sea Harrier design that had to engage enemy aircraft after they had attacked British shipping in the South Atlantic. In future, Fleet Air Arm pilots could (with a high degree of optimism) knock down enemy missile-armed aircraft long before they could acquire 'locks' on naval warships. However, despite the remarkable new capabilities of the Sea Harrier FRS2, the Ministry of Defence took the extraordinary decision in February 2002 to decommission these aircraft between 2004 and 2006, 6–8 years before the aircraft were due to be replaced.[60] A Parliamentary assessment of July 2002 into this decision has noted:

> Although the Sea Harrier entered service in 1979, it was given a major upgrade in 1993 (paragraph 75), and an attrition purchase of 18 new aircraft was approved in 1993 and delivered between 1994 and 1997. A significant proportion of the Sea Harrier fleet will therefore be less than

> 10 years old when withdrawn. **Whatever the rationale for withdrawing the Sea Harriers early,** which we discuss below, **it is regrettable that the MoD was taking delivery of new Sea Harriers only a very few years before making that decision. At the very least, we are presented with a poor impression of long term planning in the MoD.**[61]

Much of the rationale for withdrawing the Sea Harriers early stems from the problems associated with the aircraft's original engine (lacks thrust) when operating in hot climates like the Persian Gulf which predisposes that future naval operations will take place exclusively in these regions. Replacing these engines has been cited as prohibitive, around £230 million for just 11 Sea Harriers[62] (though put in context, approximately half the cost of a new assault ship). Consequently, the plan is to replace the Sea Harrier with the RAF's Harrier GR7, which will be upgraded to GR7a standard by fitting them with a new engine that will overcome the lack of thrust in hot climates. These aircraft will then be upgraded once more with improved strike capabilities (avionics and weapons) to GR9/9a standard by 2008.[63] Incredibly, this entire plan is predicated on the notion that the primary roles of the FAA have in some way diminished in the light of the new strategic environment and that naval air power should focus largely on strike missions against land targets. One government representative states, in justifying this new naval orientation, that

> the role of the Royal Navy carriers is not primarily now to defend the fleet, but it is in line with the expeditionary doctrine that underpins our defence policy, much more about the ability to project power at a distance… The Sea Harrier makes little contribution to this, frankly. The GR7 makes a much more substantial one and will make an even greater one when it is upgraded to the GR9.[64]

The underlying assumption of this statement suggests that future operations will take place in some part of the world where clearly an air threat does not exist, and the Royal Air Force will enjoy the luxury of striking with impunity at ground targets while supporting the land forces ashore. Sadly, this mistaken belief flies in the face of the last sixty years of naval operations and even in the Gulf War an air threat – although it proved to be small – still existed.

The obvious winner as a result of these proposals is the Royal Air Force who have managed, in the same manner as the infamous decision to cancel the CVA-01 project of 1966, to wrest one of the

Royal Navy's primary roles from its grip and replace it with plans that offer much on paper but serious questions remain as to whether they can deliver on their promises.[65] The critical point is that with all the future improvements to the GR7/GR9 it will not fulfil the fundamental capabilities and roles of the Sea Harrier that exist today. Nevertheless, the RAF will enjoy considerable enhancements to their aircraft to the direct detriment of the Royal Navy's Sea Harrier force, which will disappear entirely. For the Royal Air Force, it is an important victory, for it has struggled more than the other two services to find a role in the post-Cold War environment. The loss of the European theatre has left the service with a force structure, Tornadoes, Harriers and to a degree the new Eurofighter, that is ill-geared toward fighting out-of-area operations in the littorals or the War on Terror. Without the Sea Harrier, the Royal Air Force is likely to dominate future air operations within expeditionary warfare that may extend to include the air wings for the new strike carriers. After all, the RAF would possess the necessary infrastructure and pilot-training programmes that the Royal Navy would have to start from scratch in 2012, which would represent an altogether more expensive proposition when considered from an overall defence-policy perspective. In cultural terms, the loss of the Sea Harriers will have a profound impact on the Royal Navy and its ability to defend itself. The key question is that of why the officer corps has accepted such radical proposals and allowed a significant proportion of the Fleet Air Arm to be hived off to the Royal Air Force. In part, the Royal Navy is politically in a delicate position, as the critical decision of the future strike carriers has yet to be confirmed; it is often forgotten that CVA-01 had been given the go-ahead to be built, yet it was still cancelled by a Labour administration. A head-on clash with the Ministry of Defence like that over the 1981 defence review would not be of long-term benefit to the service. Subculturally too, the Fleet Air Arm's representation at the highest levels of service has never been the strongest. The weakness in air defence, so painfully highlighted by the Falklands Conflict, may yet have profound consequences for the Royal Navy in the long interim period, almost ten years before the new strike carriers are accepted into service.

Merlin, the Astute Class and Tomahawk

The twenty-first century has witnessed the widespread introduction into service of one of the most sophisticated anti-submarine helicopters in the world, the Merlin. It was a design

born out of the Cold War and mentioned indirectly in the 1981 defence review as a replacement for the Sea King.[66] Consequently, its specifications were drawn up to operate in a strategic environment dominated by the threat of Soviet submarines; however, by the time it gained acceptance into the fleet, the Cold War was over. Merlin is the most expensive naval helicopter in the history of the Royal Navy if not the world. The total cost for an order of 44 helicopters has eventually amounted to just under £4.2 billion[67] that works out (including development costs) at nearly £100 million per aircraft. The very cost of the helicopter, which is two-thirds the cost of a Type 23 frigate, changes the nature of the relationship between warship and air asset. Now it is not just a ship with a helicopter but two major weapons platforms in their own right. The Royal Navy will clearly benefit by possessing such technology but it does raise significant questions about the procurement and cost project management concerning this helicopter. In addition, the loss of such helicopters in accidents or combat will represent an enormous financial blow to the service.

The Astute-class submarine represents the future attack boat of the service, and at 7,200 tonnes submerged is almost the size of an old Polaris submarine.[68] The Royal Navy has ordered initially three with an option for three more. A great deal of the technology incorporated into the boats has been derived from the development of the Trident ballistic missile submarines that cost Britain and more directly the budget of the Royal Navy around £12 billion by the end of the 1990s.[69] The Navy argues that the Astute class reflects new roles for the SSN:

> The services SSN community has made a decisive break away from its Cold War emphasis on anti-submarine warfare (ASW) to embrace the Navy's new operational concept of Maritime Contributions to Joint Operations. The challenge now is to realise the full potential of the SSN across its wider range of taskings.[70]

The key differences between the Astute class and its predecessor the Trafalgar class are seen in the nuclear power plant that in the new boat will not require refuelling during the submarine's operational life, and also in the fact that the new boat can carry about a dozen more weapons (38 in total) than the maximum load of the Trafalgar.[71] The new roles of SSNs have been considerably enhanced by the acquisition of the Tomahawk land-attack cruise missile (TLAM) of which Britain initially ordered 65.[72] These weapons now allow the Royal Navy to destroy targets inland at

ranges of 1,000 miles and offer a revolutionary capability for the SSN that is far superior to any missile (currently) in the Royal Air Force's inventory. So far, the Royal Navy has on two separate occasions fired TLAM in anger, from HMS *Splendid* in the Kosovo campaign of 1999 (20 missiles at a cost of £300,000 each) and from HMS *Triumph* and HMS *Trafalgar* in 2001 in the attacks on the Taliban in Afghanistan.[73] The extra size of the Astute class would allow a single boat to position itself off a coastline and either contribute to a coalition air offensive or support expeditionary troops advancing on the ground. It represents a significant technological step forward for the Submarine Service and encapsulates much of the experience of nuclear-powered submarine operations of the last 20 years.

An Institutional Culture for the Twenty-first Century

In view of the profound changes to the size and force structure of the Royal Navy and the host of doctrinal manuals that stress the new roles of the service in the post-Cold War environment, the institutional culture has unsurprisingly hardly altered. The beliefs that have served the Royal Navy so well in the past continue to be replicated at the initial training establishment, the often little-recognized Britannia Royal Naval College, that will remain with naval officers throughout their careers. The memory of cultural icons such as Horatio Nelson is very much alive within the service, existing at an almost unconscious level inside the subcultural milieu of the officer corps. In many ways, these cultural trends are a healthy sign that, despite the immense technological and societal changes that have occurred in the last sixty years, the institution has kept sight of its original purpose: to fight and, above all things, win wars for the British state within the maritime environment. The future of modern warfare particularly in the light of the 'War on Terror' may be uncertain and the Royal Navy as it did in the 1960s faces major internal challenges to critical parts of its force structure, but naval officers will adapt to the challenges ahead in the same manner as their forebears. In the last twenty years, the Falklands Conflict and the Gulf War have presented the service with operational combat in the missile age and very different challenges. In both cases, despite notable difficulties and internal tensions (intraservice and interservice), the Royal Navy achieved the desired aim. In the former conflict, it ensured the political survival/international reputation of the state, whereas in the latter war, the Royal Navy played (typically) a major role in the fighting and accounted for

much of the enemy's naval forces. The basic conclusion that can be drawn from this research is that the Senior Service will continue to imagine in peacetime as well as fight in war in a manner that reflects cultural predilections, and the evidence of recent campaigns suggests that, with specific caveats, it is a winning formula.

NOTES

1. A. Buchan, *War in Modern Society* (London: Collins, 1966), p. ix.
2. *The Falklands Campaign: The Lessons*, Cmnd 8758 (London: HMSO, 1982), para. 201, p. 15.
3. N. Tracy, *Nelson's Battles* (London: Caxton, 2001), p. 168.
4. S. Prince, 'British Command and Control in the Falklands Campaign', *Journal of Defense and Security Analysis*, 18, 4 (2002), p. 341.
5. The case in point is Admiral Sir Derek Reffell, who possessed the latest operational knowledge of aircraft-carrier warfare and amphibious operations and was excluded from Northwood.
6. See Preface to the Third Edition of J. Thompson, *No Picnic* (London: Cassell, 2001).
7. See M. Clapp and E. Southby-Tailyour, *Amphibious Assault Falklands* (London: Orion, 1997), pp. 71–3; Thompson, *No Picnic*, pp. 17–18.
8. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, pp. 72–3,
9. Ibid., p. 73.
10. S. Ward, *Sea Harrier Over the Falklands* (London: Cassell, 2001), p. 356. (Explanation added).
11. Ibid., pp. 178–9.
12. Ibid., p. 219.
13. See M. Middlebrook, *Task Force* (Harmondsworth: Penguin, 1987), pp. 158–9.
14. A first-hand account by an Engineering Officer on HMS *Sheffield* reveals that just prior to the Exocet hitting the ship, a 'pipe' over the ship's intercom system called for the advance warfare officer to go to the operations room. See M. Bilton and P. Kosminsky, *Speaking Out: Untold Stories from the Falklands War* (London: André Deutsch, 1989), p. 52.
15. *Implementing the Lessons of the Falklands Campaign*, HC 345-I, para. 116, p. xxxiv.
16. See C. Barnett, *Engage the Enemy More Closely: The Royal Navy in the Second World War* (Harmondsworth: Penguin, 2000), pp. 410–21 for an account of the last moments of Force Z.
17. S. Woodward and P. Robinson, *One Hundred Days* (London: Fontana, 1992), p. 57. Interestingly, Woodward admits that of his 406 days in command, just 96 were at sea and 'none of them operational'. The ship as with many first of class vessels suffered from immense teething problems. See ibid., p. 58.
18. *Implementing the Lessons*, HC 345-I, para. 123, p. xxxvi.
19. Ibid., para. 126, pp. xxxvi–vii.
20. D. Brown, *The Royal Navy and the Falklands War* (London: Leo Cooper, 1987), p. 159.
21. Ibid., p. 160.
22. Ibid., pp. 359–60.
23. Woodward and Robinson, *One Hundred Days*, p. 216.
24. Ibid., p. 217.
25. L. Inskip, *Ordeal By Exocet* (London: Chatham, 2002), p. 119.
26. Brown, *Royal Navy and the Falklands War*, p. 221.
27. Clapp and Southby-Tailyour, *Amphibious Assault Falklands*, pp. 235–6.
28. Woodward and Robinson, *One Hundred Days*, p. 287.
29. 'The Sea Dart normally cannot hit a target which flies below 2,000 feet at long ranges and below 15 metres at close range'. See A. H. Cordesman and A. R. Wagner, *The Lessons of Modern War, Vol. III* (London: Mansell, 1990), p. 347.
30. *Implementing the Lessons*, HC 345-I, para. 126, p. xxxvi.

31. Woodward and Robinson, *One Hundred Days*, p. 289.
32. 'By 1990 Britain was Iraq's third largest trading partner.' See L. Freedman and E. Karsh, *The Gulf Conflict: Diplomacy and War in the New World Order* (London: Faber & Faber, 1994), p. 24.
33. *The Future Size and Role of the Royal Navy's Surface Fleet*, HC 309, para. 94, p. xxvii. (original bold emphasis).
34. C. Craig, *Call for Fire* (Leicester: Charnwood, 1997), p. 322.
35. Ibid., p. 454.
36. Ward, *Sea Harrier Over the Falklands*, pp. 352–3.
37. See J. J. Pettman, 'Gender Issues', in J. Baylis and S. Smith, *The Globalization of World Politics*, 2nd edn (Oxford: Oxford University Press, 2001), p. 584.
38. Brown, *The Royal Navy and the Falklands War*, p. 73.
39. See Woodward and Robinson, *One Hundred Days*, pp. 201–3.
40. E. J. Marolda and R. J. Schneller Jr, *Shield and Sword* (Washington, DC: Government Reprints, 2001), p. 263.
41. Craig, *Call For Fire*, p. 399. (Explanation added).
42. See D. Wettern, *The Decline of British Seapower* (Coulsdon: Jane's, 1982), p. 383.
43. Ibid., p. 438.
44. P. M. Kennedy, *The Rise and Fall of British Naval Mastery* (London: Macmillan, 1983), p. xxvii.
45. *Future Size and Role*, HC 309, para. 123, p. xxxiii (original bold emphasis).
46. D. Porch, *The French Foreign Legion: A Complete History of the Legendary Fighting Force* (London: HarperPerennial, 1992), p. 634.
47. See *The Strategic Defence Review*, Cm 3999 (London: Stationery Office, 1998), para. 142, p. 38.
48. I. Speller, 'Delayed Reaction: UK Maritime Expeditionary Capabilities and the Lessons of the Falklands Conflict', *Journal of Defense and Security Analysis*, 18, 4 (2002), p. 374.
49. Ibid.
50. *Strategic Defence Review*, Cm 3999, para. 142, p. 38.
51. C. Cameron, *American Samurai* (Cambridge: Cambridge University Press, 2002), p. 270.
52. See the official Ministry of Defence website, *Type 45 Class – Capability*, www.mod.uk/business/type45/capability.htm (original bold emphasis).
53. See *Aster 15/30*, www.globalsecurity.org/military/world/europe/aster.htm
54. *Type 45 – Class Design Details*, www.mod.uk/business/type45/design_details.htm
55. Speller, 'Delayed Reaction', p. 373.
56. *Implementing the Lessons*, HC 345-I, para. 128, p. xxxvii.
57. See M. Kaldor, *The Baroque Arsenal* (London: André Deutsch, 1982).
58. See A. Finlan, M. J. Grove and P. D. Grove, *The Second World War, Vol. 3: The War at Sea* (Oxford: Osprey, 2002), pp. 37–8.
59. The Eleventh Report from the Defence Committee, *Sea Harrier Mid-Life Update*, HC 445 (London: HMSO, 1990), para. 3, p. v.
60. See The Fourth Report from the Defence Committee, *Major Procurement Projects*, HC 779 (London: Stationery Office, 2002), para. 71, www.publications.parliament.uk/pa/cm200102/cmselect/779/cmdfence/77908.htm [HTML version].
61. Ibid., para. 72 (original bold emphasis).
62. Ibid., para. 78.
63. Ibid., para. 77.
64. Ibid., para. 91.
65. See Wettern, *Decline of British Seapower*, pp. 264–76 for a discussion about the state of relations between the Royal Air Force and the Royal Navy over the future carrier programme. This section also reveals how RAF planners in an official report actually moved Australia 400 miles westward on a map so that it would it fit within the range of their aircraft!
66. *The Way Forward*, Cmnd 8288 (London: HMSO, 1981), para. 28, p. 10.
67. See UK Defence Statistics 2002 (London: Stationery Office, 2002), *Table 1.16 Major Equipment Projects*, www.dasa.mod.uk/natstats/stats/ukds/2002/chapter1/tab116.html [HTML version].
68. Polaris or the Resolution Class was just over 8,000 tonnes submerged. See J. Parker, *The Silent Service* (London: Headline, 2002), p. 387.

69. Ibid., p. 357.
70. See the Royal Navy's website, www.royal-navy.mod.uk/static/pages/461.html
71. Parker, *Silent Service*, pp. 388–9.
72. Speller, 'Delayed Reaction', p. 373.
73. Parker, *Silent Service*, pp. 364–6.

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