Corbett Paper

No 14

US Carrier Strike and the Mediterranean, 1970-89: Lessons in littoral crises response for the United Kingdom's Joint Expeditionary Force

Michael Wood

King's College London
University of London

The Corbett Centre for Maritime Policy Studies August 2014

US Carrier Strike and the Mediterranean, 1970-89: lessons in littoral crisis response for the United Kingdom's Joint Expeditionary Force

Michael Wood

Key Points

- Fully formed and forward engaged carrier air groups of the US Sixth Fleet have hitherto been available for crisis management or coercive diplomacy in the Mediterranean, including in Jordan (1970), Lebanon (1983) and Libya (1981-89). They routinely offered decision-makers a preferred instrument for intervention, retaliation and resolve, within the bounds of an evolving national strategy.
- The cases recall a range of contingencies and outcomes. Aerial coercion offers no guarantees, but a deliberate and integrated political-military strategy must square the requisites of Capability, Credibility, Control and Communication for success.
- Sixth Fleet's posture also served a broader systemic role, with carriers the workhorses of the lengthy, sequential series of "mini-containment clusters" for conflicts in and adjacent to the region. Britain's own interests in the Mediterranean (and beyond) and the security implications of instability following the twin shock of the Arab Spring and the spread of militant extremism to the Maghreb, Sahel and Levant argue for a carrier operating concept centred here.
- Lessons, budget pressure and differing service visions for Carrier Strike provide the crux of the argument. Strategic political direction is needed to underwrite the choices open in three areas: forward presence and apportionment, embarked critical mass and precision strike acquisition. Withdrawal of the Sixth Fleet carriers provides a strategic opportunity for the forward deployment of a British carrier to the Mediterranean. Furthermore, the air group planned in SDSR appears short on critical mass and responsiveness. Finally, if the UK genuinely wishes a capacity for unilateral crisis response, then future acquisition must compensate for niche US theatre-entry capabilities to minimize the otherwise certain risks attending aerial coercion.
- The paper addresses a conceptual gap in the treatment of the political application of maritime power, by incorporating the reach of carrier aircraft and the qualitative shift in the coercive utility of force through precision strike. It introduces the concept of 'carrier strike diplomacy.'

Lt Cdr Michael Wood RN serves at the US Joint Forces Staff College and is a former flag navigator to Commander UK Carrier Strike Group (COMUKCSG). He is a graduate of the London School of Economics and Cambridge, completing at the latter a thesis on British Economic Interests and the Future of the Royal Navy in Asia under Sir James Cable. This paper is an edited version of a thesis submitted to the Joint Advanced Warfighting School in partial satisfaction of the requirements of a MSc degree in Joint Campaign Planning and Strategy.

US Carrier Strike and the Mediterranean, 1970-89: lessons in littoral crisis response for the United Kingdom's Joint Expeditionary Force

Michael Wood

Part One: The Re-Capitalization of UK Expeditionary Strategy

'All the world knows, gentlemen, that we are building a new navy…We are to have a navy adequate to the sense of our needs; and that sense is bound to expand as our people appreciate more and more…that a country's power and influence must depend upon her hold upon regions without her own borders, and to which the sea lends….Well, when we get our navy, what are we going to do with it?'[1]

Alfred Thayer Mahan, address to the US Naval War College, 1892

Introduction

This paper engages the problem of how the United Kingdom will project joint power from the sea to achieve goals within the littoral following the arrival of HM Ships *Queen Elizabeth* and *Prince of Wales*. Echoing Mahan, our interest lies in the utility of maritime power as an instrument of national policy. Like his students, UK strategic planners face the incipient prospect of shaping and directing this instrument with the return to large-scale carrier operations - centrepiece of 'Future Force 2020' and the Joint Expeditionary Force (JEF).

The analysis is anchored in the Mediterranean and in a deliberate period for reasons beyond thematic convenience and the constraint of space. Both time and place are dense with US examples of applied carrier power in a region of enduring geopolitical importance and instability. Moreover, whilst then nominally bound in bi-polarity, the degree to which the US was able to act unilaterally despite the Soviet maritime contest some 40 years ago resonates with today's emergent stand-off between Western and Russian Federation interests in Syria, the Black Sea and elsewhere.

The focus is on crisis response and limited contingency operations rather than major operations.[2] The paper identifies lessons for UK policy makers and joint

practitioners in littoral carrier power projection from the US experience – to help posit an answer to Mahan's question just as the UK re-capitalizes its expeditionary strategy. The crux of our argument is that *strategic political direction is required to underwrite the choices open in three areas fundamental to the utility of Carrier Strike: forward presence and apportionment between Allied operating nations, embarked critical mass and future precision strike acquisition.*

The argument is relevant in both general and particular terms. Its general relevance is underscored by the need to optimize Carrier Strike within the force structure of the Defence Joint Operating Concept (DJOC).[3] In particular, it hopes to inform the space where strategic planners are forging the carriers' operating concept and, in so doing, deciding upon the balance of their employment between the 'engaged' force – present forward and crisis-ready – or the 'responsive' JEF. More fundamentally, it comes as the UK shifts from campaigning to engagement, deterrence and contingency whilst the US conversely pulls to re-balance towards Asia.

This part provides background material to frame the context and rationale behind the re-capitalization of Carrier Strike. It introduces *The National Security Strategy: A Strong Britain in an Age of Uncertainty* (NSS) and derives from it the role the future (Combined) Joint Expeditionary Force (C/JEF) plays in it. The genesis of the carrier requirement, its central function within the JEF, and the capabilities promised by a platform whose striking arm, the F-35B Lightning-II (JSF), is jointly manned, are then outlined. This part also explores the shifts in geostrategic emphasis within the Mediterranean since 1945 and, specifically, the implications for Britain's interests there given the region's recent re-emergence as a crucible of instability.

Part 2 analyses cases spanning two decades of US power projection in the Mediterranean. It begins by explaining US maritime strategy there between 1970 and 1989 to frame the higher determinants of operations in Jordan (1970), Lebanon (1983) and Libya (1981-89). The cases cover a range of contingencies, with political-military direction of varying quality and timeliness, for limited and potentially unlimited stakes, and from success to qualified failure. Part 3 provides a broader discussion on the employment and effectiveness of precision strike in coercive statecraft, and offers a conceptual framework for the utility of Carrier Strike as an instrument of crisis response.

Drawing on the disparity between the original strategic intent and the fiscal reality behind force generation and service stances almost two decades on, part 4

outlines three areas where explicit direction is necessary to realize the carriers' promise. Given withdrawal of a permanent US Sixth Fleet carrier in the Mediterranean, the paper argues for the forward deployment of a British carrier there instead, using a basing and readiness profile coherent with the priority risks identified by the NSS. It argues further that the touted air group provides neither the critical mass nor the responsiveness required in crises. The paper argues finally that if the UK wishes a unilateral capacity, then future acquisition must compensate for niche US entry capabilities to minimize the otherwise certain operational *and* political risks of coercion. Part 5 provides a concluding summary of findings and implications.

The Joint Expeditionary Force within UK National Security Strategy

'Our pivotal role in the UK Joint Expeditionary Force will lie at the heart of this effort.'[4]

Admiral Sir George Zambellas, First Sea Lord

Establishing a Permanent Joint Headquarters (PJHQ) and Chief of Joint Operations (CJO) in 1996 to command overseas operations, and after entertaining a detour via the vogues of 'transformation,' an Effects Based Approach to Operations (EBAO) and Network Enabled Capability (NEC), the UK has increasingly pursued a modular expeditionary force.[5] This would complement an activist US agenda and operationalize a desire for an ethical dimension to British foreign policy, with the military a 'force for good' in the world. Indeed, the Labour government employed military force repeatedly for crisis intervention and / or humanitarian purposes between 1997 - 2010.[6] As the 1998 *Strategic Defence Review* (SDR) put it:

> In the post-Cold War world, we must be prepared to go to crisis, rather than have crisis come to us. So we plan to buy two new larger aircraft carriers to project power more flexibly around the world.[7]

The strategic shock of 9/11 supercharged the other new logic for expeditionary warfare, namely the need to take decisive action against terrorists abroad and their state sponsors. In response, the government conducted a mini-defence review, publishing *A New Chapter* to the SDR in 2002. Citing the needs of striking at a time of one's own choosing and of deterrence, *A New Chapter* advocated power projection against terrorist centres since 'experience shows that it is better, where possible, to

engage an enemy at longer range, before they get the opportunity to mount an assault on the UK.'[8] As in America, defeating terrorism became a central challenge for British foreign policy.[9] *A New Chapter* concluded that:

> …if anything, the trend (which we recognized and planned for in the SDR) towards expeditionary operations—such as those in recent years in the Balkans, in Sierra Leone, in East Timor and in and around Afghanistan—will become even more pronounced.[10]

Both despite and because of this expeditionary outlook, major and protracted land commitments to US-led operations in Iraq then Afghanistan followed; success there being the MoD's 'main effort' until 2014.

Notwithstanding the focus on combatting terror, British strategy retained an undercurrent of horizon scanning which pulled towards an adaptable expeditionary force and thus sustained the rationale for large carriers - this despite deteriorating public finances and the immediate need to rebalance the defence budget by tackling unfunded procurement commitments (the so-called £38bn 'black hole'). Against a mantra of austerity, the incoming 2010 Conservative-Liberal Democrat coalition issued the NSS under the auspices of a newly created, cabinet-level, National Security Council (NSC). Tasked with 'applying all our instruments of power and influence to shape the global environment,'[11] the NSC would 'identify risks early and treat the causes, rather than having to deal with the consequences.'[12] The NSC endorsed a National Security Risk Assessment to assess and prioritise all major areas of national security risk, both domestic and overseas. The NSRA identified 15 generic priority risk types, subdivided further into three tiers. Crucially, seven of these risks explicitly or implicitly played to the employment of Carrier Strike.[13]

The simultaneous publication of *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review*[14] (SDSR) with the NSS marked a further milestone in restoring the UK to an expeditionary, vice continental, strategic disposition. SDSR outlined the resource implications of this but promised that the UK would:

> Remain ready to use armed force where necessary to protect our national interests…future forces, although smaller…will retain their geographical reach and their ability to operate across the spectrum

from high-intensity intervention to enduring stabilisation activity.[15]

Responding to the NSRA highest priority risks, the SDSR, like SDR before it, focuses on 'preventing international military crises, while retaining the ability to respond should they nevertheless materialize.'[16] In so doing, it put 'renewed emphasis on using conventional forces to deter potential adversaries and reassure our partners, including through military deployments to demonstrate resolve and capability.'[17] In programme terms, SDSR would deliver 'a major restructuring of the Armed Forces in order to generate future military capabilities that will be [among others] expeditionary, able to be deployed at distance.'[18] This translated into a new set of Defence Planning Assumptions and a commitment to 'Future Force 2020', with each service increasingly optimized around the new JEF.

Yet 'joint' and 'expeditionary' are not novel aspirations. As far back as 1956, in response to a changing appreciation of strategic requirements, the navy launched a fundamental shift in priorities with submission of the *Future Role of the Navy* concept to the Chiefs of Staff Committee – the centrepiece being a task group built around an aircraft carrier and a new 'commando carrier' based at Singapore.[19] In 1960, this in turn became the 'Joint Services Seaborne Force' as the inevitability, post-decolonization, of the loss of bases East of Suez took root – the aim being to put ashore a balanced brigade group, without recourse to host nations, off a trouble spot almost indefinitely. With remarkable fixity, the post-Cold War Joint Rapid Deployment Force (1996) and Joint Rapid Reaction Force (1998) also anchored defence planning on a reinforced brigade-size force capable of rapid, global intervention across a wide spectrum of conflict.

The 21st century iteration thus appears more re-marketing than a wholesale shift in strategic paradigm. Announced in December 2012, the JEF promises 'much greater levels of integration than previously achieved.' French participation is emphasised, in a commitment made in the Lancaster House Treaty of 2010 to enhance future military and security cooperation. The JEF also promises that it 'can be allocated a specific slice of the battle space in an allied operation *or act alone*' as the UK's core contribution to military action, with the capability to 'punch hard, projecting power with global effect and influence.' Elements of the JEF 'will spend more time reassuring and deterring in the Middle East and Gulf' since 'nowhere is more important to us', a claim juxtaposed against the recent emphasis put on NATO, and which flags the perennial

dilemma between UK ambition and resource. Yet regardless of the loci around which the carriers move, the JEF will ensure that 'as our carrier capability comes into service it will be a key part of our diplomatic, humanitarian and military strategy.'[20]

Queen Elizabeth Class and the Joint Strike Fighter - a Return to Carrier Strike

The two ships of the *Queen Elizabeth* Class (QEC), *Queen Elizabeth* and *Prince of Wales* are, at 65,000 tons, the largest warships yet built in Europe. Originally endorsed in the 1998 SDR, the requirement presaged a funded return to expeditionary ambition: 'We judge that there is therefore a continuing need for Britain to have the capability afforded by aircraft carriers. The emphasis is now on offensive air power.'[21] The 2010 SDSR clearly stated the return expected on the investment:

> There is a strategic requirement for a future carrier-strike capability….In particular, it provides options for a coercive response to crises, as a complement or alternative to ground engagements. It contributes to an overall Force Structure geared towards helping deter or contain threats from relatively well-equipped regional powers, as well as dealing with insurgencies and non-state actors in failing states.[22]

Fast, efficient ordnance handling and delivery – the ability to generate a very high aircraft sortie rate – is vital to the project, a lesson underscored by the Royal Navy (RN) contribution to the Balkans air campaigns.[23] Against an air group of 30 JSF, the ships' Highly Mechanised Weapon Handling System (HMWHS) is designed to pair munitions with a sortie generation rate some six times faster than any previous RN carrier. Planners envisage some 108 fixed wing launches in the first 24 hours, reducing to 72 per day for ten days and 36 for a further 20 days.

As for the aircraft, after considerable vacillation, inter-service and intra-cabinet wrangling, the Ministry of Defence (MOD) committed in 2012 to the purchase of 48 of the STOVL variant of the 'fifth generation' JSF (the F-35B). The Royal Air Force (RAF) and Fleet Air Arm are allocated two squadrons each, with RAF Marham in Norfolk as their Main Operating Base. The choice of variant is significant, threatening increased lifetime costs, decreased capability and, in the long term, saddling the RN with an obsolete deck configuration. These issues, whilst carrying major implications for

operational utility, are beyond the scope of this paper.[24] Initial operating capability for the UK JSF force is 2018, followed by first of class flight trials in *Queen Elizabeth* later that year. Portsmouth, base for both ships, is five days steady steaming from the Mediterranean, backdrop of our interest here.

The Strategic Unity and Coherence of the Mediterranean

'The Midland Sea remains still, perhaps more than ever, the keyboard of Europe.'[25]

Sir Julian Corbett

The Mediterranean is an almost uniquely contested crossroads of civilizations, cultures and commerce with enduring geo-strategic significance. This section explores the region's post-war strategic dynamics, drawing a thread linking US entry into an ostensibly peripheral flank to its recent eruption on centre stage of world history, in order to put the crisis-response case studies that follow into context.

Others conceptualize the Mediterranean in terms of its strategic unity and coherence – a convergence of East-West and North-South conflicts – existing perhaps more in the reckoning of such external world powers capable of treating it as a single geo-strategic entity than in the relations between the neighbouring states themselves. The flip side to this specificity is regional fragmentation and the unequal development of its component parts induced by the same competing powers.[26] During the 1990s, the East - South bonds forged during decolonization, pan-Arab radicalism and Cold War gradually unravelled under the disappointments of an Arab renaissance and the evaporation of client-state patronage.[27] Mired at the start of the 21st century with a burgeoning youth population, three grass-roots movements coalesced to trigger a crisis of statehood and thus a new schism between North and South. These movements were the wave of Europe-bound economic migration, the ideological challenge from Islamic fundamentalism and, ultimately, a secular crisis of popular representation against the established order – an implosion known collectively as the unfinished Arab Spring.

Thus, whereas Western Europe's security concerns in the Mediterranean were once a function of its defence from the East, the region itself became a potential source of threat. NATO's 'Mediterranean Dialogue' (1994) signaled recognition that its centre of gravity had moved south due to the area's proximity to Europe's unstable near abroad - the southern arc of crisis of the former Soviet Union, the Balkans, the

eastern Mediterranean, the Maghreb, and by extension, the Gulf – a dialogue which found a paradoxically kinetic outlet during the Libyan intervention of 2011. For its part, the EU sponsored broader civil initiatives in the form of the 'Union for the Mediterranean' (UfM, 2008) and (revised) European Neighborhood Policy (ENP, 2011). Together these multilateral frameworks have served to either restrain or accelerate the national strategies of the interested powers – the UK inclining towards the latter by putting 'NATO at the Heart of UK Defence.'[28]

Part 4 discusses how the JEF might be employed within the NATO framework or usefully work in a complementary or integrated mode to aid a US-led Coalition, but this section concludes by noting the latitude still exercised via traditional great power competition within the region. France and the US remain the dominant Mediterranean powers, the latter acting more independently since exterior and less vulnerable to the émigré sensitivities that the French experience with their own large Maghrebi community. Unlike a US increasingly drawn to Asia, French policy perceives the Mediterranean as the theatre in which to pursue France's status as an independent power, routinely deploying the carrier *Charles de Gaulle* to signal national interest.[29]

A re-assertive Russian Federation has copied these unilateral modes of behavior. Quick to surge a naval watch over the 2011 Syrian uprising, Russia re-instated a permanent 'naval operational division' in the Mediterranean to 'defend national interests', support Syria and 'counter the US and other allied navies in the region.'[30] Following an earlier routine visit in January 2012, Russia deployed its only aircraft carrier, *Admiral Kuznetsov,* to Tartus at the end of 2013, timed to arrive as UN peace talks on Syria opened in Geneva. Such a pointed show of force testifies to the enduring collateral of carriers in great power competition and crisis response, theme of our next part.

British Strategic Interests in the Mediterranean in the early 21st Century

'The Arab Spring is the most important event of the 21st century so far.'[31]

The Rt. Hon. William Hague MP, Foreign Secretary

Trailing interventions in the Balkans (1992-1999), Lebanon (2006), Libya (2011) and almost Syria, Geoffery Till's analysis of Britain's 'return to globalism' and role east of

Suez could apply equally to her heightened interest in the Mediterranean:

> With hindsight…the Royal Navy's historic retreat from east of Suez is in fact…better seen as an example of *reculer pour mieux sauter…*The British concluded that they simply could not disengage completely from the area, because it contained too many interests deemed critical to Britain's prosperity and security. Moreover the relative priority of those interests rose, as the Cold War declined, and the direct and indirect impact of distant troubles on Britain's domestic prospects became more obvious.[32]

Despite diminished resources, the UK sustains a naval interest in the Mediterranean beyond the transitory engagement achieved whilst *en route* to the Arabian Gulf. Itinerant participation in NATO's Op ACTIVE ENDEAVOUR (2001-present) and significantly, since 2011, the annual forward deployment of the Response Force Task Group to the Mediterranean are two of the more conspicuous examples of this commitment.[33] But the most enduring symbols of British military-strategic resolve is retention, at Gibraltar and Cyprus, of Permanent Joint Operating Bases, assets which 'give us…wide geographical reach and logistic support hubs for deployed forces…central to our ability to deploy military force around the world and respond to changing strategic circumstances.'[34] Both played key parts in the interventions listed above and both have a complementary role to play in future Carrier Strike operations.

The Coalition's foreign policy of liberal conservatism treats crisis intervention to a more utilitarian, circumspect calculus compared to the perceived excesses of the 'ethical' foreign policy of the Blair / Brown years.[35] The determining constraint is austerity finance, a condition likely to extend to 2018. Economics drives the immediate focus on reinvigorating bilateral relationships and infusing international engagement with a commercial focus, yet the threat of failed regions, combining the consequences of a stalled Arab Spring and the spread of militant Islam, has the potential to bind Britain to Mediterranean-centric security issues for the foreseeable future.

Britain's trade interest in the Mediterranean relates less to the value of the commerce within its shores but more for its extrinsic value as the funnel to riches further East. Some 11% by value - $120Bn - of the UK trade in goods traverses via Suez.[36] This avenue's importance neither should be under nor overstated; the top UK export destinations remain transatlantic whilst Morocco, Algeria and Libya rank

respectively 47th, 65th and 84th, yet China is now the ninth largest destination by value and India 11th. China plays an even more important role in UK imports, as the third largest importer after Germany and the US.[37] The immediate consequences of Euro-zone sclerosis, the need for export-led recovery and a re-balancing of the economy away from the trade in services will quicken the pace of this long-term re-orientation East of Suez.

A more direct concern is that of energy security, particularly of Liquefied Natural Gas, which accounts for 34 per cent of total UK gas imports. Some 97 per cent of this comes via Suez from Qatar.[38] The UK has sought to diversify away from this profound dependence by looking to Libya and Algeria. In January 2013, Prime Minister Cameron held talks with the latter in the wake of the terrorist attack on the part BP-operated In-Amenas gas plant. His offer of security and intelligence cooperation also opened dialogue on prospective new investment.[39] Such investment is necessary to prevent the stagnation of North African exports, given their own strongly increased domestic demand and predicted falling production levels up to 2020.

It is in this longer period that the UK's gas energy situation grows critical. Already a net importer, the UK will halt its own gas exports almost entirely before 2020. Norway provides the bulk of the UK requirement but Norwegian reserves will also begin a steep decline around 2015.[40] With North Sea production in terminal decline in the next decade, Qatari LNG vulnerable to Gulf security concerns and the European Commission pledged to reduce energy dependence on Russia post-Crimea, developing the North African energy sector has become a strategic imperative for Britain and the EU countries alike. As a 'new frontline of violent extremism' opens in the Western Sahel-Sahara region, increased efforts to stabilize the region will follow.[41]

In this context, extension of the Al-Qaida franchise into North Africa is enabling groups to exploit lawlessness, grievance and upheaval in the wake of the Arab Spring and then threaten Western energy interests therein, such as Al-Qaida in the Islamic Maghreb (AQIM) achieved at In-Amenas. It is troubling also for the sustained, re-generative threat posed to stability beyond the littoral as jihadists pursue their aims here.[42] Both strands have directly influenced recent British policy but in opposite directions. The UK provided modest material support to the French-led interventions against Islamist insurgents in Mali and the Central African Republic, yet the virulence of Jihadist groups confounds any desire to intervene in Syria for fear of what comes next. As each nation's strategic assessment has tended to converge following the

Lancaster House agreements, vis-à-vis Iran, Libya, Syria, and to some extent the Sahel, Anglo-French responses are likely to grow increasingly attuned and operationalized through the CJEF.[43]

Part Two: Littoral Crisis Response – Three Cases

'Where are the carriers?'[44]

Henry Kissinger

Throughout the second half of the Twentieth Century, carrier-strike consistently offered US decision-makers their chosen instrument of intervention, retaliation and resolve in support of US national purpose in the Mediterranean, within the bounds of an evolving maritime strategy and a vexed international disorder. This part explains the context of this strategy before analyzing three of the most significant instances of carrier employment in littoral crisis response.

US Maritime Strategy in the Mediterranean, 1970-89

US strategic commitment to the Mediterranean arose from fear of Soviet absorption of the Balkans, Greece and Asia Minor in the spring of 1946, as Joint Chiefs of Staff memos JCS 1641/1 (March) and 1641/5 (April) urged intervention to supplant Britain's diminishing capacity to provide stability there. Energy security - unimpeded access to the Persian Gulf via Suez – was also a consideration, the Navy being the largest customer of the Arabian-American Oil Company in Saudi Arabia during the years 1946-7.[45] The naval forces coalesced by 1949 into the Sixth Fleet, a permanent structure that remained at some 40 ships over the next four decades and which would, in time, come to be regarded as 'both the symbol and substance of the United States' military presence in the Mediterranean Basin.'[46] Sixth Fleet had a dual mandate, formally responsible for guarding NATO's southern flank and, more broadly, protecting American interests in the region.[47] Underwriting this commitment was an unprecedented forward offensive strategy centreed on carrier task forces, dating from the Naval Strategic Planning Study (NSPS) 3 of 1947.[48]

If the logic of US entry into the Mediterranean was to countervail Soviet preponderance in Eurasia with a carrier-strike threat to her flank, its grammar was instead the repeated instances of littoral crisis response that skirted a direct conflict. Such emergencies played to crises attending pan-Arab nationalism, revolutionary insurgency and radical anti-western militancy - themes peripheral to, if encouraged by,

the main East-West contest. Three of Sixth Fleet's four missions accordingly spoke to such contingencies.[49]

US maritime strategy circa 1970 reflected Cold War priorities and risks. Responding to the Soviet naval buildup of the late 1960s and the Nixon Doctrine, then Chief of Naval Operations Admiral Elmo Zumwalt placed new emphasis on conventional overseas presence, stressing the importance of the 'dual-mission' carrier as 'a mobile strategic contingency reserve' in the contemporary 'Project SIXTY' report. He went on to claim that in the Mediterranean 'the Soviets have, in a sense, successfully turned NATO's southern flank', citing their strengthened position in the Arab world.[50] The 200-ship multi-ocean OKEAN '70 exercise of April 1970 - then the largest conducted by *any* navy since World War II – affirmed this sense of waning power and provided the immediate context for US resolve during September's Jordanian crisis.

Throughout the remainder of the decade and into the 1980s, the call to recover 'maritime superiority' grew increasingly shrill, whereby 'in the final analysis, the United States must have the clear ability to prevail over any maritime adversary if it is to protect its interests worldwide, and deter actions which could lead to a major war.'[51] This advocacy evolved via concepts such as 'Project Sea Strike' and 'SEA PLAN 2000' to form the basis of the 600-ship navy goal. It crystalized in the Reagan Administration's unusually explicit *The Maritime Strategy*, whose primary concern was the USN's baseline strategy for fighting a global conventional war with the Soviets.[52] Using the mantra 'forward, global, allied and joint,' the earliest iterations, circa 1982-5, accordingly stressed Sixth Fleet's role in the attrition of Soviet forces and paid little attention to crisis response and peacetime presence.[53]

Subsequent events, not least in Lebanon and Libya, led instead to recognition of a 'violent peace' for the final 1986 public issue. This stated that, 'a principal feature of this era is the continuing and widespread existence of localized conflicts and crises, mostly in the third world, but often with global implications' where 'potential crises and the aftermath of crises have increasingly defined the location and character of our forward deployments.' Acknowledged too was the impact of the rise of state-sponsored terrorism. The emphasis of *The Maritime Strategy* thus shifted to align with the realities of US carrier employment, 'The heart of our evolving Maritime Strategy is crisis response … Our ability to contain and control crises is an important factor in our ability to prevent global conflict.'[54]

Black September - Jordan 1970

The Jordan crisis tends to be lost in the complex story of the Arab-Israeli struggle, but it was a dramatic joint intervention nonetheless – combining terrorism, super-power standoff, a failing state and imminent regional conflagration. Sixth Fleet's carriers served as the teeth of brinksmanship diplomacy throughout.

The crisis began over 6-9 September 1970 when Palestinian terrorists flew four hijacked Western airliners to an abandoned airfield northeast of Amman. There they held 500 hostages, eventually releasing all but 55 Jewish captives, including 38 Americans, and spectacularly destroying the grounded aircraft. Washington ordered Task Force 60 (TF 60), comprising the *Saratoga* and *Independence* task groups, to the Eastern Mediterranean in response to a Jordanian appeal for help,[55] emphasizing that a 'sudden but well-ordered fleet movement would [send] the proper signal to all of the players in the Middle East.'[56] As the groups steamed east, additional Phantom interceptors leapfrogged from *Saratoga* to embark in the nearer *Independence* ready for Offensive Counter Air missions. The US also sent 6 transport aircraft and 25 more Phantoms to Turkey and placed the 82nd Airborne Division on semi-alert. Washington considered landing marines, aided by US Army troops flown in by C130, to rescue the hostages but opted instead for a diplomatic solution.

By 17 September, TF 60 units established themselves in a 'dispersed randometric formation' with reference to Camel Station, a geographic point between Crete and Cyprus that took advantage of British diversion airfields and long-range radar in Cyprus. Establishing an air defence and identification zone (ADIZ), the disposition provided complete radar surveillance of the Eastern Mediterranean, augmented by continuous fighter combat and antisubmarine air patrols. Around twenty Soviet vessels meanwhile interposed themselves to shadow and report on TF 60 activity.

The hijacks sparked a cascading crisis, as a restive Palestinian diaspora undermined Hashemite control to the point of collapse. By 15 September, Jordan was in a state of civil war, martial law paradoxically having failed in part because militants interpreted Sixth Fleet's move as a precursor to US intervention. On 17 September, Jordanian troops entered Amman. Large scale fighting ensued and the King requested US tactical air strikes. President Nixon conversed directly with Sixth Fleet's commanders at sea, having intimated off record that day that 'The United States is

prepared to intervene directly in the Jordan civil war should Syria or Iraq enter the conflict and tip the military balance against government forces.'[57] Additionally, Secretary of Defence Melvin Laird announced that the US was 'prepared to evacuate Americans from Jordan if necessary.'[58] A third carrier, *John F Kennedy,* and an amphibious group led by *Guam* with 1,500 marines sailed from Norfolk that evening.

With order generally restored to Amman, Syria launched tanks into Jordan as the spearhead of a new guerilla thrust. This attack pushed within 50 miles of Amman, taking the second city of Irbid on 20 September. King Hussein again appealed for US or British air and ground intervention. Washington's problem set was enormous, namely how to support or save Jordan without emboldening the Soviets to act, stave off Israeli unilateral intervention to preserve the recently signed Egyptian-Israeli cease-fire, and protect or evacuate US citizens in the country. The 82nd Airborne Division and units in West Germany were now placed on full alert as part of a contingency to seize Amman airport, whilst the Soviets were given a precise warning that the US *and* Israel might be compelled to intervene unless their client withdrew.[59] Washington gave private assurances to the King that Sixth Fleet would provide air cover to a Jordanian armoured counter-offensive, sanctioned commencement of Israeli mobilization to re-take Irbid, and guaranteed an American 'umbrella' to protect Israel in the event of Egyptian or Soviet intervention.[60] By 21 September, Sixth Fleet pilots were briefed on possible targets *in* Syria[61] whilst a plane from *Independence* conducted an ostentatious flight to Tel Aviv, the undisclosed purpose of which was to co-ordinate targets with the Israeli Air Force.[62]

The crisis culminated the following day. Assured of support and covered by his small air force, the King launched a full-scale counter-attack at Irbid. The Syrians began to retreat after losing some 120 tanks, mainly to airstrike or mechanical breakdown. Significantly, the Defence Minister, Hafez Al-Assad, held the Syrian air force from battle - a shrewd move that shortly helped him wrest power from Salah Jadid, the *de facto* leader of the Baathist government.[63]

Lebanon 1983

Two US Carrier Battle Groups patrolled off Beirut almost continuously between July 1982 and April 1984, initially in response to Israeli intervention in Lebanon's civil war. They later provided cover for the Marine Amphibious Unit (MAU) sent as

peacekeepers with the Multi National Force there.[64] Amid steadily deteriorating security and on the eve of Israeli withdrawal, by the end of August 1983 EUCOM delegated to Sixth Fleet's commander the authority to employ carrier reconnaissance and naval gunfire to protect the Marines ashore. On 8 and 19 September US warships engaged Druze militia and Syrian gun positions. By 12 September, EUCOM authorized carrier strikes to support the MAU as necessary.[65] Ground commanders ultimately demurred on these for fear of civilian casualties yet the impartiality of the US presence was fast unravelling.

The catastrophic double bombings of the US and French Marine barracks on 23 October crippled the mission. With the Reagan Administration split on an appropriate response and its attention focused now in any event on the invasion of Grenada, the naval show of force mustered at 'Bagel Station' in the weeks after the bombing did little to influence events ashore. On 3 December, Syrian and Druze forces in the Bekáa valley fired missiles at a reconnaissance flight; this coming after a large bombing raid that morning by the Israeli Air Force east of Beirut. In response to this ostensibly tactical escalation, President Reagan authorized a retaliatory air strike. Above the detail of target lists, he acted now to avenge the marine bombing, expecting, in the words of one of his advisers, that 'the Pentagon would kick the shit out of the Syrians.'[66] Yet having rejected a target package created for the JCS in the wake of the barracks bombing, EUCOM prepared its own from which to make a 'tit-for-tat' selection. The TF commander at sea negotiated by phone those that were feasible, alleging later that none 'was worth a damn as a military target', comprising 'a lot of valueless…scattered suspected anti-aircraft sites.'[67] Worse, the targets were sufficiently small as to need a visual attack.

Friction bedeviled the raid. Ignorant of the actual deck cycle readiness of the carriers, the convoluted command chain translated overnight a JCS recommendation for an 'early morning strike' into a hard 'on top' time of 0630, against the 1100 launch being planned for at sea. A hastily conceived and assembled strike package comprising some 28 medium and light bombers from the carriers *Independence* and *John F Kennedy* did manage to launch by 0720. Many were without full bomb loads. More seriously, the aircrews did not participate in the detailed preflight briefing necessary to conduct a major air strike, let alone an attack involving two separate air groups.[68] The force abandoned any pretense of cover or deception in the frantic effort to achieve the revised timings and radio discipline broke down in the effort to get

aircraft moving. Preparations were monitored by a nearby Soviet surveillance vessel, whilst Syrian radar tracked the force for half an hour as it marshalled overhead the carriers.

Anticipating a medium-level bombing run above the ceiling of guns and man portable missiles, the aircrews instead found themselves flying into sun and struggling to locate targets nestled in the shadows of hills and morning haze. Diving to low release altitudes, the massed package came under intense fire from an alerted enemy that destroyed two aircraft and damaged a third, killing one aircrew member; another ejected over sea. The Syrians captured one aviator who spent a month in captivity; the Reverend Jesse Jackson publically flew to Damascus to secure his release.

Libya 1981-1989

A 'hot' confrontation with Libya simmered long before Qaddafi's eventual ousting. Claiming the Gulf of Sidra as Libyan territorial waters, Libyan jets fired at US reconnaissance planes on two occasions during the Carter Administration.[69] Libya ignored three subsequent Freedom Of Navigation (FON) challenges before the issue was shelved in the wake of the Iranian hostage drama. President Reagan's approach was more assertive, directing in early 1981 an extensive series of FON exercises aimed principally at the Soviets but including the Gulf of Sidra. On 19 August, US fighters screening *Nimitz* and *Forrestal* destroyed two Libyan jets following a day of tense probes of a scheduled high seas firing exercise whose boundaries encroached the claimed limit.[70]

Qaddafi implicated himself, by association or approval, in a spate of terrorist outrages involving US citizens between October and December 1985. The NSC convened to discuss Libya on 6 January 1986. The DoD's 'Crisis Pre-Planning Group' presented a series of military options amounting to bombing raids, use of the new tomahawk cruise missile, or a renewed naval show of force. Lacking unequivocal proof of involvement to carry domestic or international opinion for armed retaliation, and in the hope of buying time to secure Allied backing for the same, Reagan opted to cut all trade, directed EUCOM to prepare plans for air strikes and approved a further naval exercise near the claimed limit.

The *Saratoga* and *Coral Sea* battle groups duly conducted operations ATTAIN DOCUMENT and ATTAIN DOCUMENT II between January and February. Each

lasted four days. The Libyan response to the first was mute. The second prompted 150 separate daytime sorties to probe the fighter screen. Neither operation was deliberately provocative but both rendered tactical intelligence on the Libyan Air Force and bought time for US intelligence agencies to build the case on Qaddafi's links to terror. A third carrier, *America*, surreptitiously sailed meantime to join the Sixth Fleet.

ATTAIN DOCUMENT III received Presidential approval to push inside the 'line of death' on 14 March. A contingency plan, PRAIRIE FIRE, was included, permitting TF 60 to launch proportionate, preemptive or retaliatory surface and air strikes against Libyan ships, aircraft, and shore facilities in the event of a hostile act. Placed defensively some 150nm north of the line, from west to east, two of the carriers commenced flying a 12-hour deck cycle and the third provided a daylight surge.[71] On 24 March, a surface action group entered the Gulf of Sidra and approached the Libyan 12nm limit, with the intent to apply pressure to the point where Qaddafi would launch his Air Force, flushing out 'a massive turkey shoot.'[72] The Libyans responded instead by clumsily launching a half dozen Surface to Air Missiles (SAM) against the overhead combat air patrol; the action was enough to unleash PRAIRIE FIRE. In the ensuing skirmish, carrier aircraft destroyed two corvettes, damaged a third and neutralized the missile site.

PRAIRIE FIRE failed to deter Qaddafi, who sought quick revenge through further acts of proxy terror. He ordered bombings of TWA flight 840 on 2 April and a Berlin nightclub popular with US personnel three days later. Signals intercepts now provided incontrovertible proof of Libyan involvement in the latter outrage. Reagan immediately authorized Operation EL DORADO CANYON, the strategic objective of which was to destroy major elements of Libya's terrorist command, training and support infrastructure.[73] Sixth Fleet took responsibility for the timing and detail of the raid, which employed two strike groups against five targets at Tripoli and Benghazi in a joint, low-level, precision night attack. Strict Rules of Engagement (RoE) minimized the risks from undue exposure of US aircraft over the target area and, at the President's insistence, of civilian casualties. Eighteen USAF and 15 USN medium bombers, plus supporting fighters, tankers and electronic warfare planes took part in the 15 April raid. The attack was launched from bases in Britain and aboard the *America* and *Coral Sea*; the carriers having sprinted from holding stations north of Sicily to within 150 nm of the Libyan coast, shaking off their Soviet tails in the process.

One outbound F-111F was lost to enemy fire after its bomb run, killing the two-man crew.

Qaddafi's last bout with US carriers occurred amid allegations of an attempt to build a chemical weapons plant at Rabta and suspected involvement in the December 1988 Lockerbie bombing. The *John F Kennedy* poised off the Gulf of Sidra as the *Theodore Roosevelt* readied to join. On 4 January 1989, fighters from *Kennedy* downed two jets that approached in a threatening manner in the 'Second Gulf of Sidra Incident.'[74]

The Cases – an Appraisal

In British doctrine, coercion requires *credibility* of threats, effective *communication*, *control* of escalation, and the underpinning *capability*. The cases stress the importance of constructing a politico-military strategy that addresses all four. In Jordan, Kissinger's crisis management involved a skillfully balanced, if close-run, politico-military strategy of dissuasion by denial which squared all four requirements. Working in conjunction with behind-the-scenes, hardball diplomacy to underwrite Jordanian integrity and deter escalation, the carriers acted as the visible stake and stood ready to counter the Syrian armour.

The Reagan-era strikes were less well handled. The US had no credible stake in the Lebanon conflict ahead of the barracks bombing and no credible interest in remaining thereafter. Distracted by Grenada, the delayed attack and extraordinarily limited nature of the targets selected exhibited considerable *self*-control but imposed none on the assailants. Without a strategy, stake or dialogue partner, there was no communication – the goals being unstated and the effort so limited and unsupported as to comprise not so much a 'try and see' gambit but more a spasmodic reprisal indicating mere intention to resist. The hastily conceived and problematic raid of 4 December raised intense doubts within the DoD and the service on the capabilities of US naval aviation, where Vietnam had bequeathed an inadequate light-attack force structure and mindset.[75] The resulting capture and negotiations for a downed pilot soured any residual vindication for the act.

A much more comprehensive, sustained and intensive approach went some way to address these issues in Libya. The administration incrementally applied all bar a formal ultimatum to its declared goal of persuading Qaddafi to reject terrorism,

setting in motion an active policy that utilized coherent and escalating political, economic and military pressure. Carrier strike was the lead instrument.[76] The overarching strategy was however constrained by the weakness of the accompanying sanctions regime, lack of positive inducement, loss of focus post Iran-Contra, absence of dialogue and lack of any follow-on punishment to EL DORADO CANYON.

For that raid, presented with 36 options, the debate within the special targeting committee pitched the NSC staffs' preference for high-value economic targets against that of the President and JCS for terrorist-related sites. The five chosen sought to reduce the chance of civilian casualties, send a clear message on terrorism and satisfy a legal defence under Article 51 of the UN charter. They would also potentially incite a backlash against Qaddafi since located within military bases. Additionally, all the targets were located near the coast to reduce the risk to aircrews.[77]

The net result was ambiguous. Domestically satisfying and useful in muting Qaddafi and prodding international action against him, and with evidence suggesting the attack caused dissent within the Libyan military, undermined popular support and displeased his Soviet backers, Qaddafi nonetheless continued to sponsor regional mischief and clandestine acts of appalling terror.[78] US credibility and communication arguably needed an explicit ultimatum of further punishment for non-compliance and some form of inducement or reward for renouncing terrorism. The tacit ultimatum given instead was itself the results of failure to control and curb Qaddafi's provocations via earlier 'try and see' and graduated responses. The administration mustered overwhelming capability for the confrontation but succumbed to a self-denying restraint. Congressional and media opposition already pulled the punch of PRAIRIE FIRE. Insistence on 'equivalence' in target selection hamstrung the scope of this, the culminating raid.

EL DORADO CANYON was daring but flawed. Overhead Libya for 19 minutes, the raid delivered a psychological shock rather than a substantive military or cognitive blow. Planning commenced almost immediately afterwards on an overwhelming strike in case of a compelling terrorist riposte, with oil refinery and storage facilities as prime targets.[79] It did not come.

Part Three: The Application of Carrier Strike to Crisis Response

'Coercion is inevitably at the heart of UK Defence Policy, even if it is rarely expressed using that particular word.'[80]

Recapitalizing Britain's joint carrier capability involves the maturity of not merely a vast engineering, logistical and administrative effort. It requires also a renewed engagement - a maturation of thought – on the employment of this qualitatively new form of power in the service of national policy, in particular as a dominant and responsive instrument of crisis response.

Crisis Response Revisited

The concept of crisis management is briefly dealt with, in the sense of attempts to advance a state's own interests whilst defusing a known confrontation that might lead to general war, since only Iran and Argentina pose a recognized threat to British interests. Crisis management has a built-in dilemma, seen in the Jordan case, namely the tension between military logic (to alert or activate forces, which may induce pre-emption in the opponent) and the politico-diplomatic requirement for control.[81] Failures and fears attending this dilemma helped refine general guidelines for the design and use of military forces that resonate with both UK Carrier Strike and the US doctrine of tailored deterrence alike. In the words of President Kennedy, 'Our weapons systems must be useable in a manner permitting deliberation and discrimination as to timing, scope and targets in response to civilian authority.'[82] Thus, the military and political instruments must integrate to limit objectives and means and help satisfy a politico-military strategy by which to advance or retire peaceably.

Coercive diplomacy, a more vital concept to Britain and its sense of place in the world, refers to defensive use of threats as an instrument of policy – that is efforts to uphold the status quo by persuading an opponent to stop or reverse an action.[83] This dissuasion by punishment is conveyed by ultimatum, tacit ultimatum (where neither a time limit nor punishment is explicit), graduated pressure or a 'try and see' policy. George identifies nine political conditions common to successful coercive diplomacy.[84] Applied to our cases at Table 1, they reinforce the sense in which the Jordan crisis most fully benefitted from that conditioning upon which the military threat from strikes

depends. Yet the outcomes that carrier strike might hope to influence can rarely be anything more than a weighted gamble. Coercion is inevitably context-dependent and the results frequently ambiguous. It needs thought *a priori* on the adversary, the level of leadership targeted and relations between the levels, plus alertness to our own capacity to mirror image. Coercion may manoeuvre despots and moderates alike into positions from which retreat is emotionally difficult and politically dangerous.

Even discounting the adversary's capacity or will to resist, coercion suffers from significant self-impediments. For one, coercion raises ethical and normative flags with potential to constrain political freedom of action, a constraint magnified if applied via multilateral action-channels such as NATO.[85] Coercion should also be purposeful and legal. The ways and means should be legitimate, acceptable and appropriate in a broader sense, that is to say, a perceptible 'campaign authority' must exist.[86] Finally, as US action against Al-Qaida demonstrates, coercion is further complicated and diffused when applied to non-state actors. This is part the general problem of influencing a recognizable decision or interest calculus within such nebulous, non-sovereign political nuisances, and part that of problematic targets:

> Repeatedly during the long shadow war against Al-Qaida prior to 9/11, the Clinton Administration attacked and prepared to attack Al-Qaida facilities and leaders, including Osama bin Laden; missions were often aborted not because the military was not ready to launch air strikes, cruise missiles or special operations, but because intelligence was not always actionable.[87]

Carrier Strike Diplomacy

Drawing on Corbett's notion of limited war in *Some Principles of Maritime Strategy*, authors such as Cable and Luttwak described the political applications of naval force.[88] Cable categorized such 'gunboat diplomacy' as *Definitive* (a *fait accompli*), *Purposeful* (akin to coercive diplomacy as in Jordan and Libya), *Catalytic* (tentative, as in Lebanon) or *Expressive* (emotive or empathetic).[89] In Luttwak's typology, such force comprised either latent or active suasion, each with a range of tactics to signal the same.[90] Missing and needed is a treatment that updates the analysis to incorporate the coercive reach of carrier air power and the qualitative shift in the utility of force

through precision strike. Such an approach is outlined below.

In a way that Luttwak and Cable could not have anticipated, the precision effects of Strike Warfare now threaten an unprecedented degree of strategic paralysis – launched from the sea but aimed directly at an adversary's leadership.[91] Isolating the 'command ring' as the directing *moral* centre of gravity – at both strategic and operational levels - the tools of 'Rapid Dominance' are able to prise and expose its vulnerability. Rapid dominance affects 'the adversary's will to resist by imposing a regime of 'Shock and Awe' to achieve strategic aims and military objectives.'[92] A psychological blow is not enough – both concussion and humiliation fade. Shock and awe needs to influence also on cognitive,[93] physical and military levels, the aim being to demonstrate selectively both the impotence and inevitable vulnerability of an opponent's military - to render it marginal - whilst challenging political leaders to re-value their decision calculus. Paraphrasing Churchill, the fear should be in the minds of civilian and military leaders, that 'we everywhere were weak and naked.'[94]

Precision strike owes and shares much with its functional antecedent, the gunboat diplomacy of imperial lore.[95] Both leverage, *indeed depend on,* the helplessness that attends a fundamental asymmetry of power, interest, reach and technology. In the jargon, both enjoy 'escalation dominance.' Both imply limited but exacting blows, offered or threatened, as a foretaste of more to follow. Both function inside out, juxtaposed - ideally visually - in the face of leaders, targeting the moral rather than physical centre of gravity. Yet the combination of air *and* sea power maximizes coercion by adding to rapid dominance those distinctive maritime attributes and strengths[96] - access, mobility, sustained reach, versatility, poise and leverage:

> Escalation is easier to control using smaller scale deployments of sea and air power, which can more easily engage and disengage dynamically. Sea power can sustain a forward presence largely independent of overseas basing and offers a useful range of diplomatic and military signaling. It can also provide a base to project different forms of power…directly from the sea or in combination with air mobility and air attack.[97]

Carrier-Enabled Power Projection (CEPP)[98] harnesses these two domains in a formidable way; *conveying influence from the sea by delivering effect from the air.*

In practice, among the Joint Commander's first order tasks is to determine the adversary's centre of gravity. In his original systems perspective, Warden identified the command ring as a 'true centre of gravity,'[99] comprising information gathering, communication and decision elements, of which 'The decision element is clearly the key, for without it the other two are worthless. Unfortunately the decision element is the most difficult to reach directly.'[100]

'Shock and awe' may appear somewhat shopworn after a decade of counter-insurgency and academic controversy, but the approach has nonetheless opened all US campaigns since the 1991 Iraq war.[101] Subsequent thought and practice has focused increasingly on the decision element, extending the concept as the *moral centre of gravity*, which alone provides the will to fight and the ability to command the resources to fight. The people that comprise it fall into three general categories: the leader, the ruling elite or a strong-willed population. One or all three may constitute the moral centre of gravity, requiring an intelligence-led assessment to filter the true from the false constituents and, for decision makers, to determine their style, process, filters, biases and information conduits.[102] Suffice to say, a limited coercive strategy is unlikely to succeed if the centre of gravity is determined to rest with the will of the people.

The second order, harder task is to identify viable targets within the moral centre, that is to say, targets that Carrier Strike can deliver coercive *capability* against and affect *control* over – and all at an acceptable level of risk. Once selected, the object becomes one of targeting effects - of rapidly reducing the 'system' to the desired level or inducing the claimed paralysis and doubt. The preferred method for doing this is that of 'parallel warfare', striking a significant proportion of the small number of vital strategic targets simultaneously and relying on precision, surprise, agility and intelligence to overwhelm an adversary's capacity to disperse, defend, repair or counterattack.[103]

The 1999 NATO Operation ALLIED FORCE was one of aerial coercion writ large. The 78-day campaign put significant emphasis on strategic command ring targets, including the politically sensitive elements that maintained Serbian President Milosevic in power – the moral centre of leader and ruling elite.[104] Targets included top

headquarters, communications networks, television stations, presidential residences and retreats (with their bunkers and communications), formal and informal command and control systems for running military and police elements, and the electrical power system.

Less visible was the sophisticated effort to ransom the crony network behind Milosevic's personal power base. Here, the US Joint Warfare Analysis Centre (JWAC) identified some 15 to 20 key party officials and their financial interests to encourage delivery of concessions or face threat of air strike.[105] In this mode of dissuasion by punishment, a 'governmental politics' approach[106] that identifies an adversary's mechanisms for decision-making under pressure and the range of actors and advisors, their stands and stakes, and the action-channels involved, suggests a lucrative additional or substitute line of direct or indirect targeting of - or demonstrations against - strategic leadership.[107]

If the doctrinal issues of *capability* and *control* fall largely to the military, the challenge for policy makers is to create the complementary politico-diplomatic strategy with which to impart *communication* and *credibility*. A classic, early instance of this was the LINEBACKER campaign that accompanied US attempts to negotiate withdrawal from Vietnam.[108] Similar demands applied to the 'deck of cards'- like strategy in Kosovo, involving a highly personal and discriminating confrontation with key leaders. Success needs the orchestration of clear ultimata, commitment to purposeful and potentially repeated strikes, reinforcing and proactive Information Operations (IO), agile intelligence and maintenance of diplomatic channels to tune and gauge.[109]

Yet errors help fan the 'failure of airpower' critique. Robert Pape argues that 'decapitating' the enemy by targeting its leaders and strategic assets is ineffective on its own.[110] Benjamin Lambeth's analysis of Operation CHANGE DIRECTION, Israel's 34-day campaign against Hezbollah in Southern Lebanon, in which the IDF embarked on an almost exclusive line of shock and awe-style, standoff and precision attack, is salutary:

> If anything 'failed'…it was not Israeli airpower or any other instrument of warfare *per se* but rather a blend of ill-founded military and civilian decisions at the highest level with respect to the nature and aims of Israel's opponent; initially avowed goals that were unachievable through *any* mix of military force that the Israeli people and the

> international community would likely countenance, the ultimate choice of a strategy for pursuing the campaign's objectives, and the government's mismanagement of public expectations as the counteroffensive unfolded.[111]

Such comments, augmented by statistical analysis,[112] highlight the irreducible fact that without troops on the ground only the adversary decides when it is over. There are no guarantees. Coercion by air is 'cheap' but cannot work in isolation from other tools of statecraft. Moreover, success from Phase II of operations makes it even more essential that the Joint Commander thoroughly understands which elements of the Command ring need preserving for Phases IV and V, with a parallel influence campaign to secure the continuity of government on the assailant's terms.[113] These commonplace observations raise less a concern on the utility of air power to coerce, but introduce instead a more fundamental discussion on whether there are neat and realizable extrinsic finalities to any crisis amenable to the military tool, or for that matter any other tool or combination thereof, of statecraft. In short, we question next the pursuit of 'decision.'

Decision in Crises: Paradox, Complexity and the Curse of Clausewitz

'Admiral, I have the President of the United States on the other end of the phone, waiting for a yes or no. Yes or no?'[114]

Admiral Isaac Kidd USN

Commander Sixth Fleet's jab at Admiral Holloway, his Commander Carrier Strike Force, huddled together over a secure handset onboard *Saratoga* as the Jordanian crisis approached its climax came as President Nixon personally demanded an assurance on their ability to safeguard Jordanian integrity, protect US citizens and defeat militarily any intervention in those efforts. Holloway's initial offering that 'it was a hard question to answer with a simple yes or no' earned the rebuke. The incident recalls Prime Minister Tony Blair's opening enquiry made during a private meeting with General Clark a month into Kosovo, 'are we going to win?'[115] Such details emphasize the magnitude of the political gamble involved in coercion by air. They illustrate also a perilously misconceived reductionism in pursuit of a military-strategic decision.

Confounding this search, 'the entire realm of strategy is pervaded by a paradoxical logic…which routinely violates ordinary linear logic by inducing the coming together and reversal of opposites.'[116] Just as the 1986 strike drove Qaddafi's terrorist campaign underground, this paradox suggests 'the more an attempt at dissuasion is effective in achieving its goal, the more likely it is that it will be circumvented or even directly attacked by the frustrated aggressor.'[117] The proliferation of Anti-Access Area Denial (A2AD) and WMD systems, GPS and other jammers, and the dispersal and hardening of command facilities all suggest this process of paradox is underway amongst those states able to resist aerial coercion. The pursuit of decision is subject to a further paradox, particularly acute for liberal democracies, in that nations must maintain a reputation for violence to *avoid* actual use of force and protect national interests. Only actual combat provides that objective reality in action, yet resort to coercion relies on entirely subjective estimates of the assailant's potential to inflict punishment and the adversary's willingness to absorb it.

A separate critique transcends classical, mechanistic notions of strategy with chaos and complexity theories. 'Self-organized criticality' treats nations as 'a tremendous multiplicity of actors in a critical state that will inevitably progress to one of transient stability after catastrophic reordering.'[118] Such non-linear paradigms have two immediate implications for crisis response. The first is to compound the difficulty in attempts to predict or sell a determinate policy outcome. Second, since chaos and criticality highlight the disproportionate effects of seemingly minor actors and events, is to recognize the existence of those (indeterminate) seams of opportunity that intervention may or may not hit upon. Perhaps for this reason, in systemic terms at least, it is possible to understand why Libya - perched at 'the edge of chaos' - collapsed so readily with the aid of air power, whereas Serbia and Iraq (circa 1993, 1998) did not.[119]

Another part to this problem teleology - the pursuit of extrinsic finality - is the legacy of Clausewitz on the Western military mind, itself conditioned to pursue decision since the ancient Greeks cast a Western way of war.[120] The charge is ironic, since Clausewitz labored on the un-seeable and unpredictable influence of friction, but stems more from wide acceptance of the mechanical conceit that war serves policy, and thus a series of lines of effort will neatly converge on a decisive centre of gravity to deliver both enemy and desired policy outcome:

> [M]ilitary leaders, because of a fixation on 'victory' and 'winning wars', have too often viewed conflict as a zero-sum game…and thus have frequently failed to provide the kind of politico-military advice a crisis situation requires…rather than thinking in terms of a variety of conflict management techniques. Too many military leaders continue to focus on conflict as a contest to be 'won' rather than an international malady that requires flexible and imaginative management.[121]

Against a binary, almost offhand, determinism to win or lose, crisis response should instead be viewed with contingent ambiguity. As in the debate on the effectiveness of economic sanctions, success becomes a matter of degree and opportunity. Such an approach sees the UK's resort to coercion as a vector tracing an arc within a cone of outcomes (fig. 1), inevitably diverging over time from the original aim point and buffeted by friction, chaos and complexity, but with 'success' growing more likely as the response is internationalized.[122]

Part Four: Strategic Utility and Choice

'A critical inquiry – the examination of the means – poses the question as to what are the peculiar effects of the means employed, and whether these effects conform to the intention with which they were used.'[123]

Carl Von Clausewitz

This part focuses on the emergent space where planners will forge the joint Carrier-Strike operating concept. The challenge is to reconnect means with intent so that the carriers satisfy their transformational promise for UK defence and foreign policy. Analysis of the cases plus our conception of the workings of carrier coercion suggests three issues where explicit choice is needed to maximize their strategic utility. These grounds relate in part to the MoD's planning assumptions on level of effort.

Forward Presence and Apportionment

The UK's engaged posture needs forward-deployed carriers. This is an enduring preference in US doctrine, where 'timely response to crisis situations is critical to US deterrent and warfighting capabilities … [and is] a function of US forward-deployed forces … forces with organic movement capability.'[124] Tim Benbow similarly documents the political advantages attending crisis response by virtue of Britain's forward maritime presence since 1945.[125] Given the Mediterranean's geostrategic importance, the carriers' 'Very High Readiness' operating cycle should pivot on Gibraltar, since:

> The pattern of potential crisis…suggests that interventions by the UK will…be based on assessment of contingencies as they arise. If the UK wishes to maintain global influence and avoid 'strategic shrinkage', its armed forces need to be at states of readiness and deployability consistent with the need to act at a time and place of political choice and in a wide variety of contexts.[126]

Such an engaged construct best positions the carriers to *operate* and *project* against littoral crises in North and West Africa, the Levant and East of Suez.[127]

The UK should also seek to coordinate the apportionment of it's carrier presence.[128] Apportionment in planning provides opportunities to *integrate* with, *displace* or *complement* other Allied forces where national interests overlap and sends a strategic message on unified effort. It sits naturally with the UK preference to lever existing bilateral and multilateral ties as extenders of ambition, with 'NATO at the heart of UK Defence.'

Having invested in Contested Domain Operations, Britain's carriers will integrate into any US-led force.[129] At the same time, the touted Anglo-French Carrier Strike Group may permit each nation to contribute alternately a carrier centerpiece for the Mediterranean: *Charles De Gaulle* having already filled NATO's 'carrier gap' during the 2011 Libyan crisis and displacing this former Sixth Fleet role. Complementary apportionment has the potential to reinforce the UK's strategic relevance by freeing and extending US latitude in areas of emergent priority – to avert the kind of over-stretch revealed by necessity in September 2013 through use of the single Fifth Fleet carrier to flex between Iran *and* threaten Syria from the Red Sea. Here, as presaged by the DoD-MoD Statement of Intent (SOI), [130] the UK may find itself pushing at an open door, with the 2014 Quadrennial Defence Review prioritizing the need for 'invigorating efforts to build innovative partnerships' to sustain US global leadership.[131]

Any such cooperation may be loose, *ad hoc* or formally structured, with UK Carrier Strike planning nesting into spaces within the US Global Force Management (GFM) scheme. This is not to underestimate the challenge of agreeing and synchronizing ends, ways and means across an Anglo-American *Weltanschauung,* yet such interdependence had precedent in the Cold War and was achieved in even relatively spontaneous crises such as occurred during the 1967 Arab-Israeli conflict. Here the carrier *Victorious* engaged in a 'cooperative effort' during Sixth Fleet's confrontation with the Soviet Fifth Eskadra, while *Hermes* poised in the Red Sea to demonstrate maritime rights against the United Arab Republic's blockade of the Gulf of Aqaba.[132]

Critical Mass

Implicit in Kissinger's customary opener to the NSC was an expectation of critical mass *on demand*. Embarked aircraft - or some kinetic alternative - are fundamental to the carrier's utility and credibility. Instead, the token air group trailed by SDSR constrains *national* choice. It separates *means* from the strategic *intent* outlined in Part 1:

> We cannot now foresee circumstances in which the UK would require the scale of strike capability previously planned…*We are far more likely to engage in precision operations, which may need to overcome sophisticated air defence capabilities. The single carrier will therefore routinely have 12 fast jets embarked for operations* while retaining the capacity to deploy up to the 36 previously planned.[133]

Notwithstanding the sophistry of planning to limit offensive mass against defences of acknowledged sophistication, this scale was nonetheless in demand six months later for the unforeseen Libyan crisis. The danger is that without clear political ownership, inter-service disagreement on posture and scale of effort will whittle away the embarked strike wing, leaving it as compromised as the former Joint Force Harrier.[134]

Whilst MoD planning mirrors SDSR assumptions, the debate surrounding the 'headline operating cycle' remains contentious, judging by the internal Ferguson Study of 2012.[135] This raised the SDSR figures by assuming 12-15 JSF would embark 'routinely', with 24 aircraft 'surging' on '*every* [biennial] *deployment cycle* to 'stress' the deck and *to practice and prove* the most demanding aspect of carrier operations.'[136] By comparison, de-coupling the carrier from its full air group is alien to the US Navy, which achieves *unity of effort* by forming and deploying an integrated platform, strike and escort battle group via the Fleet Readiness and Training Programme (FRTP) cycle.[137]

Generating mass is a significant test of joint commitment, yet the air group appears short on the doctrinal *Credibility, Capability* and *Control* required for coercion. Regardless of the service preference, it is axiomatic that 'the range of options open to policy-makers – and the ultimate strategic utility and credibility of an aircraft carrier – will be to a significant extent dependent on the size, composition and credibility of its embarked air group.'[138] Put otherwise, 'it is essential that the new carriers provide

fighting power and operational capability proportionate to their size and level of investment, and are not simply seen as totemic symbols of national virility.'[139] Yet reliance on 'reach-back' – rushing aircraft reinforcements from the UK Main Operating Base on a 'best efforts' basis at the start of a crisis – has the effect of surging risk; risk of failing the timescale set and / or the level of operational capability expected by political choice. At an even more fundamental level:

> Attaining the necessary level of credibility to coerce or reassure will require a substantial investment – both financial and temporal – in embarked training at sea to ensure that both aircrew and support personnel are proficient in operating onboard. This will require the air group to be embarked regularly for sustained periods *in order to attain a high level of basic day-and night-time proficiency* in carrier operations; the occasional detachment to the ship…will neither constitute a credible capability nor develop cohesive operational performance.[140]

The Lebanon case - a scratch, hastily conceived strike dispatched on a no-notice political whim – warns of the friction that can compromise even an embarked air group.

Critical mass matters at point of delivery. In Lebanon and Libya, 28 and 33 bombers alone took part against less than a half-dozen targets. Mitigation, whether augmentation by RAF Expeditionary Air Wings, extended range sorties direct from the UK or integration afloat of an allied F-35B contingent,[141] is scenario dependent and penalty laden. Each contradicts the intent for a national strike capability independent of host nation. None provides strategic assurance.

Precision Strike Acquisition

UK theatre-entry depends on American 'day-one' SEAD.[142] Notwithstanding symbolic British contribution to the opening salvoes of Operation ODYSSEY DAWN, the US fired 110 Tomahawk missiles in the first 72 hours of the Libyan crisis alone.[143] Likewise, US cruise missiles comprised the first wave of attacks in Kosovo, targeting some 51 Yugoslav air defence positions.[144] JSF claims to penetrate high threat non-permissive environments yet significant additional standoff fires have hitherto been the

norm to attrite air defences before exposing aircrews. Moreover, such threats clearly endure beyond ‘day one.’ In Kosovo, for the loss of two NATO aircraft, including an F-117A stealth fighter:

> Yugoslavia proved resourceful at using its mostly older-generation air defence weapons to maintain an enduring air defence threat to NATO aircraft. Emphasizing long-term survival in the face of overwhelming air power, enough surface-to-air missiles and anti-aircraft cannon survived to pose a constant low- and mid-altitude threat to NATO aircraft. By forcing aircraft to largely remain at or above 15,000 feet, it magnified NATO's difficulties in conducting effective strike operations by exploiting the alliance's highly restrictive rules of engagement and need for ‘eyes on target’ to avoid civilian casualties.

In so doing, Yugoslavia made the most of a very weak air defence hand.[145]

Furthermore, the threshold for bombing accuracy has since shrunk from ‘surgical’ to ‘pin-point’ to reduce casualties and collateral damage, with precision-strike becoming a progressively more personalized, urban form of attack on key targets.[146] Together, these trends compound the risk to aircrews loitering for the emergence of bespoke or ‘clean’ shots. They also provide the impetus behind acquisition of a new generation of standoff Low Collateral Damage (LCD) weapons.

These tactical and operational drivers have implications for strategic utility and choice in Luttwak’s era of ‘post-heroic’ war. Here the contests are discretionary and potentially so unequal that, as in Kosovo, ‘NATO could only preserve its sense of moral advantage by observing especially strict rules of engagement.’[147] The corollary is the political need to sustain the ‘virtual consent’ of a ‘virtually mobilized’ populace by minimizing exposure to loss and thus prevent the propaganda coups that confuse the direction of coercive signals, as occurred during the Reverend Jackson’s mission to Damascus to secure release of the US airman in 1983. Of concern, the lack of an embarked UK Combat Search and Rescue (CSAR) within the CEPP programme only increases the risks of similar embarrassment.

These observations, coupled to increasing A2AD threats, provide a further test of commitment to the autonomy of Carrier Strike in the guise of future acquisition. The apparent willingness to abandon SEAD as a core capability presupposes that the UK

intends to subordinate strategic choice to the availability of this key US entry-enabler.[148] If not then additional fires seem necessary. One approach is to mount land-attack missiles in escorting warships, along the US carrier battle group model.[149] Another could be to augment the air group with Remotely Piloted Air Systems (RPAS). The lesson here draws from both the increasing use of drones for 'de-capitation' and on the success of Israel's 1982 Operation MOLE CRICKET 19; a one-day SEAD campaign that used drones to flush out Syrian SAM sites for waiting conventional air strikes. RPAS portend to be a 'frictionless' and 'cheap' force multiplier that offer the further advantages of defusing the critical mass issue and sweetening the economies of bringing *Prince of Wales* into service. Given rapidly maturing technology, the inhibitors for change are cultural rather than technical or financial; the X-47B demonstrator - a competitor in the US navy's Unmanned Carrier-Launched Surveillance and Strike (UCLASS) programme - achieved the first launch and recovery from the deck of *George H. W. Bush* in 2013. Sea Avenger, a marinised Predator-C, meanwhile advertises the capability for networked, swarm attacks. RPAS require the installation of lightweight arrestor gear in the British ships.[150] A further avenue involves JSF weapon system development and the MoD's choice of the Selected Precision Effects At Range (SPEAR) Cap. 3 munition. With a programme requirement for a precision, all-weather weapon capable of prosecuting fixed, mobile and re-locatable targets in complex, hostile environments, amid restrictive RoE, and from standoff ranges, the choice pitches MBDA's proposed 75 nm mini-cruise missile against Raytheon's gliding bomb.[151] In both, the approach appears to pair JSF with a multi-mission weapon that treats SEAD as a persistent but secondary role.

Part Five: Conclusion

This paper engages the problem of crisis response coherent with the emphasis given to it by the NSS and SDSR. It takes US experience to flag policy opportunity and operational risk against the backdrop of the Mediterranean – a geostrategic hub of competing importance to the UK. It harnesses maritime *and* air power to explain conceptually the contribution Carrier Strike can make to a politico-military campaign of coercive diplomacy, coherent with the emphasis given to coercion in British Defence Doctrine.[152] The investment in CEPP largely reflects the higher-end projection capabilities envisaged of the 'rapid dominance' force, yet fundamental decisions on force planning remain if the UK is to realize its 'Sea Choice.'[153]

This paper argued that three issues central to the strategic utility of Carrier Strike remain to be adjudicated, namely forward presence and apportionment, critical mass and precision acquisition. Decisions on each threaten the participating service's *raison d'être* to some degree. The doctrinal rallying behind CEPP must now broach a practical reticence towards afloat basing or forward deployment, with its preference instead to reach back and surge air power. Such reticence reflects in the token routine level of effort touted since SDSR and in fears that the operating cycle will tether the carrier disproportionately to the JSF Main Operating Base and thus home waters. The risk in this approach extends beyond the need for critical mass to *be ready, on demand,* to deter or respond to the largely unforeseen crises that punctuate Britain's outside engagement and which are the crux of NATO's 'New Normal.' It includes the broader realization that Britain's carriers might otherwise miss the strategic opportunity to assume the systemic role hitherto played by the Sixth Fleet's fully-fledged presence, for which:

> Carriers [were] the work horses of the lengthy, sequential series of operations associated with what we call 'mini-containment clusters,' especially in the Arabian Gulf during the 1980s and into the 1990s, but earlier in the 1980s for Libya and Lebanon (and in a way even earlier for the 1973 Arab-Israeli war), and then in the 1990s for the disintegrating Yugoslavia.[154]

In addition, despite claims to be a uniquely low-observable platform, there is little reason to suppose that JSF will not also require massed 'day one' softening of air

defences by standoff fires prior to manned sorties. The UK relies on the US for this critical enabler. Without compensating capabilities such as shipborne extended-range weapons, RPAS or SPEAR Cap 3, the UK must decide - if genuinely intent on acting alone - whether it is prepared for the political and operational risks thus entailed. In all these issues, unity of effort requires strategic political direction to underwrite the choices faced.

Strategic ambition - tempered with pragmatism - is not lacking in British foreign policy, despite acute budget pressure. Creation of the NSC transformed the institutional mechanism for crisis response, its effectiveness demonstrated by the swift integration of politics, strategic communication, diplomacy and military effort in the Libyan crisis.[155] Rising to that ambition, the carriers - a joint force in steel, treasure and equities - have the potential to transform the military mechanism in furtherance of British power and influence. Mahan's question waits its answer.

Table 1 – Conditions Common to Successful Coercive Diplomacy: Three Cases.

	Jordan	Lebanon	Libya
Clarity of objective	+		?
Strong motivation	+	?	+
Asymmetry of motivation	?		?
Sense of urgency	+		
Strong leadership	+		+
Domestic support		?	+
International support			
Fear of unacceptable escalation*	+		?
Clarity of terms	+		
Note: '+' indicates presence of the conditions, '?' means that it is not clear whether the condition is present. '*' Opponent's perception			

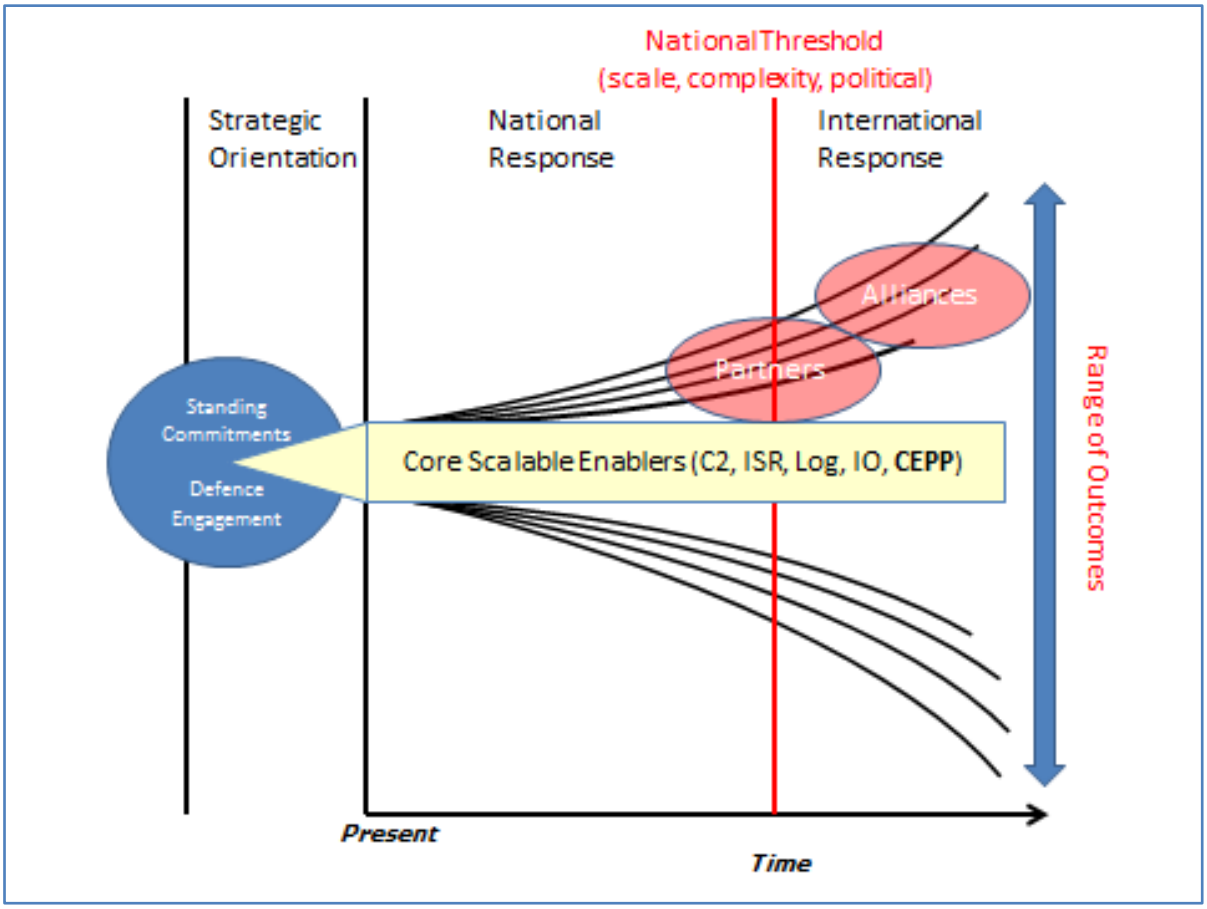

Figure 1 – The 'Cone of Uncertainty' in Crisis Response.

LIST OF COMMON ABBREVIATIONS

A2AD	Anti-Access and Area Denial
CEPP	Carrier Enabled Power Projection
CDS	Chief of the Defence Staff
CJEF	Combined Joint Expeditionary Force
CNO	Chief of Naval Operations
DCDC	Defence Concepts and Doctrine Centre
DoD	Department of Defence
EU	European Union
EUCOM	European Command
FON	Freedom of Navigation
GFM	Global Force Management
GPS	Global Positioning System
HMS	Her Majesty's Ship
JCS	Joint Chiefs of Staff
JEF	Joint Expeditionary Force
JSF	Joint Strike Fighter
MoD	Ministry of Defence
NM	Nautical Mile
NATO	North Atlantic Treaty Organisation
NSC	National Security Council
NSRA	National Security Risk Assessment
NSS	National Security Strategy
PJOB	Permanent Joint Operating Base
RAF	Royal Air Force
RN	Royal Navy
ROE	Rules Of Engagement
RFTG	Response Force Task Group
RPAS	Remotely Piloted Air System
SAM	Surface to Air Missile
SDB	Small Diameter Bomb
SDSR	Strategic Defence and Security Review
SDR	Strategic Defence Review
SEAD	Suppression of Enemy Air Defences

SPEAR	Selective Precision Effects At Range
SSN	Nuclear Attack Submarine
STOVL	Short Take-Off and Vertical Landing
TF	Task Force
TLAM	Tomahawk Land Attack Missile
UCAV	Unmanned Combat Air Vehicle
USAF	United States Air Force
USN	United States Navy
USS	United States Ship
WMD	Weapon of Mass Destruction

Endnotes

[1] A. T. Mahan, *Naval Administration and Warfare: Some General Principles, with Other Essays* (Boston: Little, Brown, and Co., 1908), 229.

[2] The Cabinet Office, *The National Security Strategy: A Strong Britain in an Age of Uncertainty.* (London: TSO, 2010) (Command 7953) Para 1-11'we face no major state threat at present and no existential threat to our security, freedom or prosperity' (hereafter NSS).

[3] See JCN 1/14 *Defence Joint Operating Concept* (Shrivenham: Defence Concepts and Doctrine Centre, 2014).

[4] First Sea Lord's Intent: Personal from Admiral Sir George Zambellas KCB DSC FRAeS ADC dated 9 April 2013.

[5] Theo Farrell, 'The Dynamics of British Military Transformation,' *International Affairs* 84, no. 4 (July 2008): 777-78.

[6] For example in Kosovo (1999), Sierra Leone (2001), Iraq (2003), Afghanistan (2006) and Lebanon (2006). See John Kampfner, *Blair's Wars* (London: Free Press, 2003).

[7] Secretary of State for Defence. *Strategic Defence Review* (London: TSO, 1998), paras 6, 19.

[8] Farrell, *British Military Transformation*, 798.

[9] Tony Blair, 'The Battle for Global Values,' *Foreign Affairs*, 86, No. 1 (Jan.-Feb., 2007), 79-90.

[10] Secretary of State for Defence. *The Strategic Defence Review: A New Chapter* (London: TSO, July 2002), paras 9, 26.

[11] NSS, 22.

[12] Secretary of State for Defence. *The Strategic Defence and Security Review* (London: TSO, October 2010) (Command 7948) (hereafter SDSR).

[13] NSS, 27. Being: *Tier One Risks:* (1) International terrorism affecting the UK or its interests, (4) An international military crisis between states, drawing in the UK, and its allies as well as other states and non-state actors. *Tier Two* (2)Risk of major instability, insurgency or civil war overseas which creates an environment that terrorists can exploit to threaten the UK. *Tier Three* (1) A large scale conventional

military attack on the UK by another state (not involving the use of CBRN weapons) (3) Disruption to oil or gas supplies to the UK, or price instability, as a result of war ... (or) … major political upheaval (5) A conventional attack by a state on another NATO or EU member to which the UK would have to respond (6) An attack on a UK overseas territory as the result of a sovereignty dispute or a wider regional conflict.

[14] SDSR, 3.

[15] SDSR., 17.

[16] Ibid., 10.

[17] Ibid., 17.

[18] SDSR., 18.

[19] Greg Kennedy ed., *British Naval Strategy East of Suez, 1900-2000: Influences and Actions* (London:New York: Frank Cass, 2005), 180-181.

[20]Chief of the Defence Staff General Sir David Richards speech to the Royal United Services Institute (RUSI), 17 December 2012 (emphasis added) https://www.gov.uk/government/speeches/chief-of-the-defence-staff-general-sir-david-richards-speech-to-the-royal-united-services-institute-rusi-17-december-2012 (accessed 2 February 2014).

[21] Secretary of State for Defence, *Strategic Defence Review* (July 1998) (TSO Command 3999) , para 26,27.

[22] SDSR., 22.

[23] Polmar, Norman and Genda Minoru. *Aircraft Carriers a History of Carrier Aviation and its Influence on World Events. Volume 2, 1946-2006.* (Washington DC: Potomac Books, 2006), 404-5.

[24] James Bosbotinis, 'The Future of UK Carrier Strike,' *The RUSI Journal* 157, no. 6 (December 2012): 10.

[25] Julian Stafford Corbett, *England in the Mediterranean; A Study of the Rise and Influence of British Power within the Straits 1603-1713* (London; New York; Bombay: Longmans, Green, and Co., 1904), Vol. II, 315.

[26] Dominic Fenech 'The Mediterranean Region during the Cold War and After', in Hattendorf, John, *Naval Strategy and Power in the Mediterranean: Past, Present, and Future* (London: Frank Cass, 2000), 238.

[27] Ibid., 232.

[28] Chief of the Defence Staff / Permanent Under Secretary Directive, *Putting NATO at the Heart of UK Defence,* 13 July 2012.

[29] See Stephen C. Calleya,'Bridging History and Future Security Policy,' In Hattendorf, John, *Naval Strategy and Power in the Mediterranean: Past, Present, and Future* (London: Frank Cass, 2000) *,* 283-4.

[30] See Pavel Felgenhauer, 'Moscow Attempts to Extend its Strategic Influence from the Black Sea to Mediterranean,' *Eurasia Daily Monitor* 10, no. 43 (03/07, 2013), 1, http://ezproxy6.ndu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tsh&AN=87451569&site=ehost-live&scope=site., Interfax, 'Russian Navy should have Permanent Presence in

Mediterranean - Putin,' *Interfax: Russia & CIS Military Newswire* (06/06, 2013), 1, http://ezproxy6.ndu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bwh&AN=88021794&site=ehost-live&scope=site. (accessed 2 February 2014).

[31] *The Times*, 9 September 2011.

[32] 'To withdraw in order to charge again.' Geoffery Till 'The Return of Globalism: The Royal Navy East of Suez 1975-2003' in *British Naval Strategy East of Suez, 1900-2000 Influences and Action,* ed. Greg Kennedy (London: New York: Frank Cass, 2005), 265.

[33] The naval component of the SDSR-inaugurated Joint Rapid Reaction Force, precursor to the JEF.

[34] Secretary of State for Defence, *The Strategic Defence and Security Review* (London: TSO, 2010)(Command 7948), 28.

[35] For example, see speech by Rt Hon William Hague: *The Future of British Foreign Policy,* 21 Jul 2009. Broadly defined as 'a belief in freedom, human rights and democracy with a skepticism of utopian schemes to remake the world, a cherishing of what works well in practice and a strong belief in the continued relevance of the nation state.' See also Michael Harvey, 'Forged in the Crucible of Austerity,' *World Today* 67, no. 5 (May 2011): 15.

[36] Red Ensign ships, making 156 journeys to Europe, carry some 6% of the *European* containerized cargo and vehicle trade (by value) and some 4.5% and 2% respectively of the refined and crude oil markets. Figures for the Red Ensign share of trade carried direct to UK via Suez are unavailable. The Red Ensign Group (REG) comprises the international shipping registries of the United Kingdom, Crown Dependencies and UK Overseas Territories.The total combined size of the British commercial fleet stands at 3,959 vessels of 46,561,241gross tons (May 2011) placing the British Fleet 6th in size of the World's registers. This section also reflects 2009 figures: see *IHS Fairplay, Trade Flows in the North Indian Ocean and the Economic Impacts of Somali Piracy: Final Report* (IHS Global Limited, 2011).

[37] Figures for 2011-12. BIS, *UK Trade Performance Across Markets and Sectors: BIS Economics Paper no. 17* (2012), 3 and HM Revenue and Customs UK trade information database https://www.uktradeinfo.com/Pages/Home.aspx (accessed 26 March 2014).

[38] Figures April-June 2013, from Department of Energy and Climate Change, report *Natural Gas Imports* (ET4.4) dated 29 August 2013.

[39] Henning Gloystein and Peg Mackey, 'Britain looks to Algeria for New Gas Imports' *Reuters Energy,* 28 February 2013, http://uk.mobile.reuters.com/article/energySector/idUKL6N0BQ9V520130228 (accessed 12 March 2014).

[40] For a full treatment, see Miguel Martinez, Hannah Murdock and Floriane Schaeffer, *Geopolitics of Gas in the Mediterranean* (Paris: SciencePo., 2013).

[41] See for example, recommendations of the House of Commons Foreign Affairs Committee, calling on the UK Government to 'press for agreement at international level of a common security and stability policy for the region, with lead responsibility for securing its implementation resting with a tripartite leadership of France, the UK and the US.' House of Commons Foreign Affairs Committee, *The UK's Response to Extremism and Instability in North and West Africa, Seventh Report of Session, Volume 1,* (London:TSO, 2014)(HC 86-I), 3.

[42] See Margaret Gilmore, 'The Implications of North African Terrorism for the UK Counter-Terrorism Effort,' *The RUSI Journal* 158, no. 2 (April - May 2013), 80.

[43] Benoît Gomis, 'Channel hopping - Franco-UK security cooperation,' *Jane's Intelligence Review*, 7 May 2013, under 'International Security,' https://janes.ihs.com/CustomPages/Janes/DisplayPage.aspx?DocType=News&ItemId=+++1572455&Pubabbrev=JIR (accessed 12 March 2014).

[44] James L Holloway, *Aircraft Carriers at War: A Personal Retrospective of Korea, Vietnam, and the Soviet Confrontation* (Annapolis, Md.: Naval Institute Press, 2007), xi.

[45]Thomas A. Bryson, *Tars,Turks,and Tankers: The Role of the United States Navy in the Middle East, 1800-1979* (Metuchen, N.J.: Scarecrow Press, 1980), 87.

[46] Jesse W. Lewis, *The Strategic Balance in the Mediterranean* (Washington: American Enterprise Institute for Public Policy Research, 1976), 33.

[47] Lisle A. Rose, *Power at Sea, Volume 3: A Violent Peace, 1946-2006* (Columbia, MO: University of Missouri Press, 2006), 11.

[48] Ibid., 23.

[49][1] To deter aggression against Western Europe by maintaining striking forces capable of utilizing conventional and nuclear weapons and to be prepared to conduct such offensive operations as either a national or a NATO force should deterrence fail; [2] *To promote peace and stability by its readiness and availability for deployment at trouble spots;* [3] *To create goodwill for the US and enhance its prestige with the countries bordering the Mediterranean;* [and] [4] *To protect US citizens, shipping and interests in the Mediterranean area.*[emphasis added] Public Affairs Office, Staff, Commander Sixth Fleet, 'The United States Sixth Fleet' quoted in Lewis, *The Strategic Balance in the Mediterranean*, 34.

[50] Zumwalt '*Project Sixty*', quoted in John B. Hattendorf, *U.S. Naval Strategy in the 1970s Selected Documents* (Newport R.I.: Naval War College Press, 2007), 14.

[51] CNO, Adm. Thomas B. Hayward, USN, 'The Future of U.S. Sea Power,' *Naval Institute Proceedings* 105, no. 5 (May 1979), quoted in Hattendorf, *Naval Strategy in the 1970s,* 127.

[52] John B. Hattendorf and Peter M. Swartz, *U.S. Naval Strategy in the 1980s: Selected Documents* (Newport, R.I.: Naval War College Press, 2008), 53.

[53] Norman Friedman, *The US Maritime Strategy* (London; New York: Jane's Pub., 1988), 8.

[54] 'The Maritime Strategy' (Annapolis, Md. US Naval Institute, January 1986), in *U.S. Naval Strategy in the 1980s Selected Documents* (Newport R.I., Naval War College Press, 2008), 208, 213.

[55] Prime Minister Heath sent two RN aircraft carriers to Malta during the crisis, but Britain played no direct part. Heath's cabinet, as Wilson's before him, had an instinctive dislike of any military activity that had imperialistic connotations and refused to aid King Hussein of Jordan during the Black September crisis. See Geraint Hughes, *Corbett Paper no 10: From the Jebel to the Palace: British Military Involvement in the Persian Gulf, 1957-2011* (London: Kings College London, The Corbett Centre for Maritime Policy Studies, 2012), 14.

[56] James L Holloway, *Aircraft Carriers at War: A Personal Retrospective of Korea, Vietnam, and the Soviet Confrontation* (Annapolis, Md.: Naval Institute Press, 2007), 275.

[57] Holloway, *Aircraft Carriers at War*, 276.

[58] Jesse W. Lewis, *The Strategic Balance in the Mediterranean* (Washington: American Enterprise Institute for Public Policy Research, 1976), 52.

[59] Thomas A. Bryson, *Tars, Turks, and Tankers: The Role of the United States Navy in the Middle East, 1800-1979* (Metuchen, N.J.: Scarecrow Press, 1980), 168-169.

[60] Ibid., 169.

[61] Lewis, *The Strategic Balance*, 53.

[62]Thomas A. Bryson, *Tars, Turks, and Tankers: The Role of the United States Navy in the Middle East, 1800-1979*, (Metuchen, N.J.: Scarecrow Press, 1980), 70.

[63] James L. Holloway, *Aircraft Carriers at War: A Personal Retrospective of Korea, Vietnam, and the Soviet Confrontation* (Annapolis, Md.: Naval Institute Press, 2007), 279.

[64] Daniel P. Bolger, *Americans at War, 1975-1986: An Era of Violent Peace* (Novato, CA: Presidio, 1988), 202.

[65] Ibid., 222-227, 253. Not covered here but of note the French conducted carrier strikes on 22 September against Druze positions in Hammana and a second air strike on the Bekáa valley on 17 November, the latter in retaliation for the French barrack bombing. On 6 February 1984 USN aircraft hit a Beirut area target.

[66] John F. Lehman, *Command of the Seas* (New York: Scribner, 1988), 322.

[67] Ibid., 321.

[68] Bolger, *Americans at War,* 234.

[69] USAF EC-130 on 21 March 1973 and EC-135 on 16 September 1980. Mobs also sacked the US Embassy in Tripoli on 2 December 1979. Ibid., 171.

[70] Bolger, *Americans at War,* 173. Interestingly Bolger cites an ABC reporter in Tripoli who interpreted Libya's state of high alert and hysterical media coverage of Sixth Fleet's moves as indicative of imminent US invasion.

[71] Bolger, *Americans at War*, 393-4.

[72] Lehman, *Command of the Seas*, 356.

[73] Bolger, *Americans at War,* 406.

[74]Norman Polmar and Minoru Genda, *Aircraft Carriers:a History of Carrier Aviation and its Influence on World Events. Volume 2, 1946-2006* (Washington DC: Potomac Books, 2006), 374.

[75] For a full discussion see Lehman, *Command of the Seas*, chap. 11.

[76] Tim Zimmerman, 'Coercive Diplomacy in Libya' in *Avoiding War: Problems of Crisis Management* eds. Alexander L. George and Yaacov Bar-Siman-Tov (Boulder: Westview Press, 1991), 201-2.

[77] The one problematic target was the Azziziyah barracks, which housed Qaddafi's command centre and family residence, in downtown Tripoli. There was some incidental hope that Qaddafi would be present. See Zimmerman, *Avoiding War*, 214.

[78] For a full treatment of the subject and details on the ensuing internal discontent, see Brian L. Davis, *Qaddafi, Terrorism, and the Origins of the US Attack on Libya* (New York: Praeger, 1990) and Tim

Zimmerman, 'Coercive Diplomacy in Libya' in *The Limits of Coercive Diplomacy* eds. Alexander L. George, William E.Simons and David Kent Hall (Boulder: Westview Press, 1994).

[79] Davis, *Qaddafi*, 159.

[80] JDP 0-01, 1-16.

[81] Alexander L. George and Yaacov Bar-Siman-Tov, *Avoiding War: Problems of Crisis Management* (Boulder: Westview Press, 1991), 14. See also Phil Williams, *Crisis Management: Confrontation and Diplomacy in the Nuclear Age* (New York: Wiley, 1976).

[82] Special Message on the Defence Budget submitted to Congress, 28 March 1961 quoted in George and Bar-Siman-Tov*, Avoiding War,* 16 (emphasis added).

[83] Ibid.*,* 7.

[84] Ibid., 288.

[85] Such political constraints can then translate into potentially convoluted and self-negating constraints on military conduct, such as during the incremental Kosovo air campaign. Here target lists had to clear a double hurdle of national civilian veto (in the US initially at Presidential level) and acceptability across all Alliance partners. See Bruce R. Nardulli, *Disjointed War Military Operations in Kosovo, 1999* (Santa Monica: Rand, 2002), 21-35 and 48-53 and Wesley K. Clark, *Waging Modern War: Bosnia, Kosovo, and the Future of Combat* (New York: Public Affairs, 2001), 122-5, 236-7.

[86]JDP 01, *Campaigning*, 2nd Edition, DCDC. A necessary condition for long-term success is campaign authority: *the authority established by international forces, agencies and organisations within a given situation in support of (or in place of) an accepted (or ineffective, even absent) indigenous government or organisation.*'Campaign authority requires determination, control, and demonstrable confidence on the part of those intervening in a crisis to ensure that expectations are managed and that support is forthcoming from those groups and individuals that shape opinion, share power and grant consent. JDP 0-01, *British Defence Doctrine* (Shrivenham: Joint Doctine and Concepts Development Centre, 2011), 1-21.

[87] William W. Keller and Gordon R. Mitchell, *Hitting First: Preventive Force in U.S. Security Strategy* (Pittsburgh: University of Pittsburgh Press, 2006), 180.

[88] Julian S Corbett, *Some Principles of Maritime Strategy* (London: Longmans, Green and Co, 1911), chap. IV.

[89] For the definitive treatise on the subject, see James Cable, *Gunboat Diplomacy, 1919-1991: Political Applications of Limited Naval Force* (New York: St. Martin's Press, 1994).

[90] Edward Luttwak, *The Political Uses of Sea Power* (Baltimore: John Hopkins Univ. Press,1974), chap. I, IV.

[91] The term 'strike warfare' is used in the maritime domain and includes joint fire support, interdiction, strategic attack, and close air support. See AJP-3.1 *Allied Joint Maritime Operations*, Study Draft V2 May 2013, para. 0414.

[92] Harlan Ullman, James P. Wade and L.A. Edney, *Shock and Awe: Achieving Rapid Dominance*, (Washington, D.C.: NDU Press Book, 1999), xviii.

[93] JP 3-13 *Joint Information Operations*, (Washington D.C: Joint Chiefs of Staff, 2012), I-3.

[94] Churchill's reaction to the loss of HM Ships *Prince of Wales* and *Repulse* to Japanese aircraft on 10 December 1941. Winston S. Churchill, *The Grand Alliance* (London: Cassell, 1950), 551.

[95] For a counter to claims of the ability of 'shock and awe' to break an opponent's will, see Donald Chisholm, 'The Risk of Optimism in the Conduct of War,' *Parameters* 33, no. 4 (2004), 114.

[96] See JDP 0-10 *British Martime Doctrine* (London: Stationary Office, 2011), chap. 2.

[97] JDP 0-01 *British Defence Doctrine*, 1-20.

[98] The term 'CEPP' is used by the MoD. It encompasses the dual roles of Carrier Strike and Littoral Manoeuvre. We focus on the former throughout this thesis.

[99] John A.Warden, *The Air Campaign: Planning for Combat* (Washington, DC: National Defence University Press, 1990), 44-46.

[100] Ibid., 47.

[101] Operation INSTANT THUNDER. For an analysis on the claims (and limits) of a transformational change ushered in by this particular campaign, see Eliot A. Cohen, 'The Mystique of U.S. Air Power,' *Foreign Affairs* 73, no. 1 (Jan. - Feb., 1994), 109.

[102] Joe Strange and Richard Iron 'Part 1: What Clausewitz (really) Meant by Centre of Gravity,' *Understanding Centres of Gravity and Critical Vulnerabilities,* (Quantico: Marine Corps War College, 2004), 12. Strange and Iron provide useful questions to fathom true and false moral centres of gravity. Their three-fold constituents appear to apply only to 'modern' states; the experience of Iraq, Afghanistan and elsewhere might expand the list to include clan, tribal or other mid-level leaders ('the men with guns').

[103] See John A. Warden III, 'The Enemy as a System,' *Airpower Journal*, 9, no. 1 (Spring 1995), 40. Serial warfare by contrast requires the concentration of mass to achieve effect on target. Slave to this delay, serial warfare is that of manouevre and counter-manoeuvre, attack and counterattack, movement and pause – a flow of activity that necessarily implies the ebb - for one side - of an eventual culminating point.

[104] For an account on the debate over the weight of effort on strategic / leadership vice military targets between COMUSAFSOUTH, COMUSAFE and SACEUR during Kosovo, see Nardulli, 34.

[105] Discussion with Lt Gen Mike Short, USAF, Commander US Air Forces Souther Europe, 24 Oct 13, JFSC Norfolk, VA. In an example cited, the owner of the Bor Copper Smelter was given 48 hours to effect a change in Milosevic's policy. When this failed, key nodes supplying the smelter were destroyed, placing it out of action for three months.

[106] For this and other models with which to interpret crisis decision making and organizational vulnerability see Graham T.Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis* (New York: Longman, 1999) and Patrick J. Haney, *Organizing for Foreign Policy Crises* (Ann Arbor:University of Michigan Press, 2002).

[107] For an assessment on the impact of the campaign on Milosevic's decision making and inner circle, see Benjamin S. Lambeth, *NATO's Air War for Kosovo a Strategic and Operational Assessment* (Santa Monica: Rand, 2001), chap. 4. On the Kosovo campaign's status in the controversy over a claimed new

era of aerial pre-eminance, see Daniel L. Byman and Matthew C. Waxman, 'Kosovo and the Great Air Power Debate,' *International Security* 24, no. 4 (Spring 2000), 5.

[108] For analysis of the LINEBACKER raids on Hanoi and Haiphong, see for example Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York; London: Free Press; Collier Macmillan, 1989), 158-167, 170-190 and James H. Willbanks, *Abandoning Vietnam : How America Left and South Vietnam Lost its War* (Lawrence: University Press of Kansas, 2004), 180-184.

[109] See Paul Lauren 'Coercive Diplomacy and Ultimata: Theory and Practice in History' in *The Limits of Coercive Diplomacy* eds. Alexander L. George, William E.Simons and David Kent Hall (Boulder: Westview Press, 1994). This injuncture notwithstanding, the December 1998 DESERT FOX raid against a brittle Iraq was 'surprisingly successful' despite being 'A limited punitive operation uncoupled from any coercive demands on Saddam' in which 'Washington had not set any political goals' and had 'seized on a good excuse to justify ending the operation before it could become an open-ended air campaign' see Kenneth M. Pollack, *The Threatening Storm: What Every American Needs to Know Before an Invasion in Iraq* (Random House, 2003), 92-94.

[110] Robert A. Pape, 'The True Worth of Air Power,' *Foreign Affairs* 83, no. 2 (Mar. - Apr., 2004), 116. According to Lt Gen Short, Milosevic, unlike Saddam Hussein, Mohammed Omar and Osama Bin Laden, was never personally subjected to targetted strike action.

[111] Benjamin S. Lambeth , 'Learning from Lebanon : Airpower and Strategy in Israel's 2006 War Against Hezbollah,' *Naval War College Review* 65, no. 3 (2012), 83-5.

[112] Susan Hannah Allen, 'Time Bombs: Estimating the Duration of Coercive Bombing Campaigns,' *The Journal of Conflict Resolution* 51, no. 1 (February 2007), 112.

[113] US doctrine divides campaign planning into six generic phases: Phase 0 – shape, Phase I – deter, Phase II –seize the initiative, Phase III – dominate, Phase IV – stabilize, Phase V – enable civil authority. JP 5-0 *Joint Operation Planning,* (Washington D.C.: Joint Chiefs of Staff, 2011), III-38.

[114] James L Holloway, *Aircraft Carriers at War: A Personal Retrospective of Korea, Vietnam, and the Soviet Confrontation* (Annapolis, Md.: Naval Institute Press, 2007), 277.

[115] Clark, *Waging Modern War,* 264.

[116] Edward Nicolae Luttwak, *Strategy: The Logic of War and Peace* (Cambridge, Mass: Belknap Press of Harvard Univ. Press, 2001), 2.

[117] Luttwak, *Strategy,* 223.

[118] Steven R. Mann, *Chaos Theory and Strategic Thought* (Ft. Belvoir: Defence Technical Information Centre, 1992), 61.

[119] Coalition forces launched 63 cruise missiles and a 100-aircraft raid in the Janaury 1993 attacks on the Iraqi Intelligence Service headquarters, a nuclear engineering site and over 50% of the air defence missile and C2 nodes inside the southern no-fly zone (Operation SOUTHERN WATCH). In December 1998, a further 415 cruise missiles and 650 bombing sorties were launched at 97 Iraqi WMD and regime protection and control targets (Operation DESERT FOX). Pollack, *The Threatening Storm,* 92-3.

[120] See Victor Davis Hanson, *The Western Way of War: Infantry Battle in Classical Greece* (Berkeley, CA: University of California Press, 2009).

[121] Stanley Spengler, 'Force and Accommodation in World Politics' in *Coercive Military Strategy* ed. Stephen J. Cimbala (College Station: Texas A & M University Press, 1998), 182.

[122] Doctrine acknowledges this journey over destination. *British Maritime Doctrine* defines Maritime Power as 'the ability to project power at sea and from the sea to influence the behaviour of people *or the course of events*' (emphasis added), a definition aligned with that of air power, appearing in JDP 0-30 *UK Air and Space Doctrine* and AJP–3.1.

[123] Carl von Clausewitz, *On War* (New York: Knopf, 1993), 182.

[124] JP 3-35, *Deployment and Redeployment Operations*. (Washington D.C: Joint Chiefs of Staff, 2007), 1-3.

[125] See Tim Benbow, *British Uses of Aircraft Carriers and Amphibious Ships: 1945-2010, Corbett Paper no. 9* (London: Kings College London, Corbett Centre for Maritime Studies, 2012).

[126] Christopher Parry, 'The United Kingdom's Future Carriers,' *The RUSI Journal* 157, no. 6 (December 2012), 5-6.

[127]'Operate': The ability to apply the military instrument of power in support of Government policy at a time and place of political choice. 'Project':The ability to act at a time and place of political choice against threats to UK security and in support of national interests. Definitions as per the UK MoD Defence Capability Framework and High Level Operating Concept (HLOC).

[128] 'Apportionment' is defined in US doctrine as 'the distribution of forces and capabilities as a starting point for planning.' See JP 5-0 *Joint Operation Planning* (Washington D.C.: Joint Chiefs of Staff, 2011), H-4.

[129] For example as occurred during the Balkan and Afghanistan air campaigns. See Norman Polmar and Minoru Genda, *Aircraft Carriers a History of Carrier Aviation and its Influence on World Events. Volume 2, 1946-2006* (Washington DC: Potomac Books, 2006), 377-8, 398.

[130] 'Statement of Intent by the DoD and MoD Regarding Cooperation on Carrier Operations and Maritime Power Projection' dated 5 January 2012.

[131] Department of Defence, *Quadrennial Defence Review 2014* (Washington D.C.:2014), v, 12.

[132] Jonathan Trumbull Howe, *Multicrises: Sea Power and Global Politics in the Missile Age* (Cambridge, Mass.: MIT Press, 1971), 82-5, 324-5.

[133] The Strategic Defence and Security Review (London: TSO, 2010)(Command 7948), 23 (emphasis added). The redunant scale of effort presumably references Iraq post-Saddam.

[134] Nick Childs, *Britain's Future Navy* (Barnsley: Pen & Sword, 2012), 78.

[135] See Tobias Ellwood MP, *Leveraging UK Carrier Capability: A Study into the Preparation for and use of the Queen Elizabeth Class Carriers* (London: Royal United Services Institute, 2013), 15.

[136] Ibid., 15. The excerpt sheds light on the service compromise expected. It appears to prioritize procedural flying and qualification, with the 'occassional visitor' air group as a 'fit to receive' capability, over preparedness for timely intergration in crisis response against the 'sophisticated air defence capabilities' required by SDSR (emphasis added).

[137] Hattendorf, *U.S. Naval Strategy in the 1970s Selected Documents* (Newport R.I.: Naval War College Press, 2007), xvii. In the case of the JEF, the Carrier Strike Group is expected to assemble from nominated units of the RFTG. A TLAM-equipped SSN might join as available.

[138] Bosbotinis, 'The Future of Carrier Strike', *The RUSI Journal* 157, no. 6 (December 2012), 12.

[139] Parry, *The United Kingdom's Future Carriers*, 7.

[140] Bosbotinis., 11. The experience with *Charles de Gaulle* during Libya is instructive. At sea for 138 days, flying 120 of which 63 were consecutive, her fixed wing air group of 10 Rafale and 6 Super-Etendard flew some 40% of all NATO strike missions in 1,350 sorties, after US strikes had taken down the Libyan air-defence system. Yet a further 20 aircrews, reportedly fresh from training in the US at the end of April, could not join before *Charles de Gaulle* withdrew in June, since unable to achieve re-qualification against the intensive operational deck cycle. Withdrawal of the carrier was largely forced by exhaustion of the original air wing, given the tempo of sustained flying. For the French, this situation was a consequence of having a single carrier. For UK CEPP, funding of *HMS Prince of Wales* removes this pressure, allowing one of the pair to sustain training tempo in Home waters whilst the other deploys. Alternatively, deck capacity might be apportioned among US (amphibious) or Italian carriers to UK JSF training.

[141] The USMC and Italian Navy also plan to operate the F35B variant.

[142] Suppression of Enemy Air Defences (SEAD) falls *doctrinally* between the air power roles of Control of the Air (s*ecure*), Attack (c*oerce*) and Intelligence and Situational Awareness (*inform*). See JDP 0-30 *UK Air and Space Doctrine,* (Shrivenham: Defence Concepts and Doctrine Centre, 2013).

[143] Ibid., 2-4. The US-led intervention in Libya. During its opening phase, four RAF Tornado aircraft, carrying Storm Shadow cruise missiles, attacked Libyan air defence nodes during a 7 ½ hour sortie from UK. The British submarine *HMS Triumph* also launched several cruise missiles. No RAF strikes were flown from the PJOBs at Gibraltar or Cyprus (RAF Akrotiri). Despite having airfields closest to Libya, both France and Italy deployed their carriers in addition to land-based aircraft. Eight AV-8B aircraft from the light carrier *Giuseppe Garibaldi* dropped 160 guided bombs during 1221 flight hours in the subsequent NATO Operation UNIFIED PROTECTOR. See Tom Kington 'Italy Gives Bombing Stats for Libya Campaign,' *Defence News,* 14 December 2011, http://www.defencenews.com/article/20111214/DEFSECT01/112140301/Italy-Gives-Bombing-Stats-for-Libya-Campaign (accessed 30 September 2013).

[144] Nardulli, *Disjointed War Military Operations in Kosovo, 1999* (Santa Monica: Rand, 2002), 24.

[145] Ibid., 27-8. See also Benjamin S Lambeth, *NATO's Air War for Kosovo: a Strategic and Operational Assessment* (Santa Monica: Rand, 2001).

[146] See Robert Pengelley, 'The New WMD: 'Weapons of Minimum Destruction',' *Jane's International Defence Review* 44 (November 2011), 58.

[147] Michael Ignatieff, *Virtual War: Kosovo and Beyond* (New York: Henry Holt, 2000), 161.

[148] Robert Hewson, 'The Need for SEAD,' *Jane's Defence Weekly* 48, no. 42 (October 2011), 4.

[149] The Type 45 class destroyer is designed with space for a 16-cell silo.

[150] Ellwood, *Leveraging UK Carrier Capability*, Chapter 5 and Annex C. RPAS is the UK-preferred term for Unmanned Combat Air Vehicles (UCAVs).

[151] Hewson, *The Need for SEAD,* 8: The GBU-53/B Small Diameter Bomb Increment II (SDBII).

[152] Foreword by the Chief of the Defence Staff, JDP 0-01 *British Defence Doctrine* (Shrivenham: Defence Concepts and Doctrine Centre, 2011), iii.

[153] First Sea Lord, Admiral Sir George Zambellas KCB DSC FRAeS ADC. Speech to RUSI conference dated 9 September 2013 http://www.royalnavy.mod.uk/About-the-Royal-Navy/Organisation/Senior-Naval-Staff/First-Sea-Lord/130909-1SL-RUSI-speech (accessed 2 February 2014).

[154] H.H. Gaffney et al., *US Naval Responses to Situations, 1970-1999* (Alexandria, VA: Centre for Naval Analyses, 2000), 123.

[155] Jason Pack, ed., *The 2011 Libyan Uprisings and the Struggle for the Post-Qadhafi Future* (New York, N.Y.: Palgrave Macmillan, 2013), 119-129.

Corbett Paper 1 *The Russian Navy in 2009: A Review of Major Developments* by James Bosbotinis

Corbett Paper 2 *The Great Race: Innovation and Counter Innovation at Sea, 1840-1890* by Jan S. Breemer

Corbett Paper 3 *Security in the South China Sea* by Craig A. Snyder

Corbett Paper 4 *Maritime Security and the Southern Cone: Argentina, Brazil and Chile* by Martin Robson

Corbett Paper 5 *Securitisation of Piracy off the Horn of Africa: Are there implications for Maritime Terrorism?* by Charles Reed

Corbett Paper 6 *Back to Basics: British Strategy after Afghanistan* by Geoff Till

Corbett Paper 7 *The Need for a New Naval History of The First World War* by James Goldrick

Corbett Paper 8 *Piracy, Maritime Terrorism and Disorder at Sea: The View from the Ukraine* by Volodymyr Bezkorovainiy and Sergiy Sokolyuk

Corbett Paper 9 *British uses of Aircraft Carriers and Amphibious Ships: 1945-2010* by Tim Benbow

Corbett Paper 10 *From the Jebel to the Palace: British Military Involvement in the Persian Gulf, 1957-2011* by Geraint Hughes

Corbett Paper 11 *Navies and Economic Prosperity: The New Logic of Sea Power* by Robert C Rubel

Corbett Paper 12 *UK Air-Sea Integration in Libya, 2011: A Successful Blueprint for the Future?* by Geoffrey Till and Martin Robson

Corbett Paper 13 *The Interoperability of Future UK Air Power, Afloat and Ashore: A Historical Analysis* by Tim Benbow and James Bosbotinis

All available from:
http://www.kcl.ac.uk/sspp/departments/dsd/research/researchgroups/corbett/publications/corbettpapers.aspx

The Corbett Centre for Maritime Policy Studies aims to promote the understanding and analysis of maritime history and policy and to provide a forum for the interaction of academics, policy-makers and practitioners.

The Corbett Centre for Maritime Policy Studies
Defence Studies Department
Joint Services Command and Staff College
Defence Academy of the United Kingdom,
Shrivenham, Swindon, SN6 8LA, United Kingdom

Email: corbettcentre.jscsc@defenceacademy.mod.uk

Copies of previous Corbett Papers are available from:
http://www.kcl.ac.uk/sspp/departments/dsd/research/researchgroups/corbett/publications/corbettpapers.aspx

The Defence Studies Department is part of the War Studies Group, King's College London.